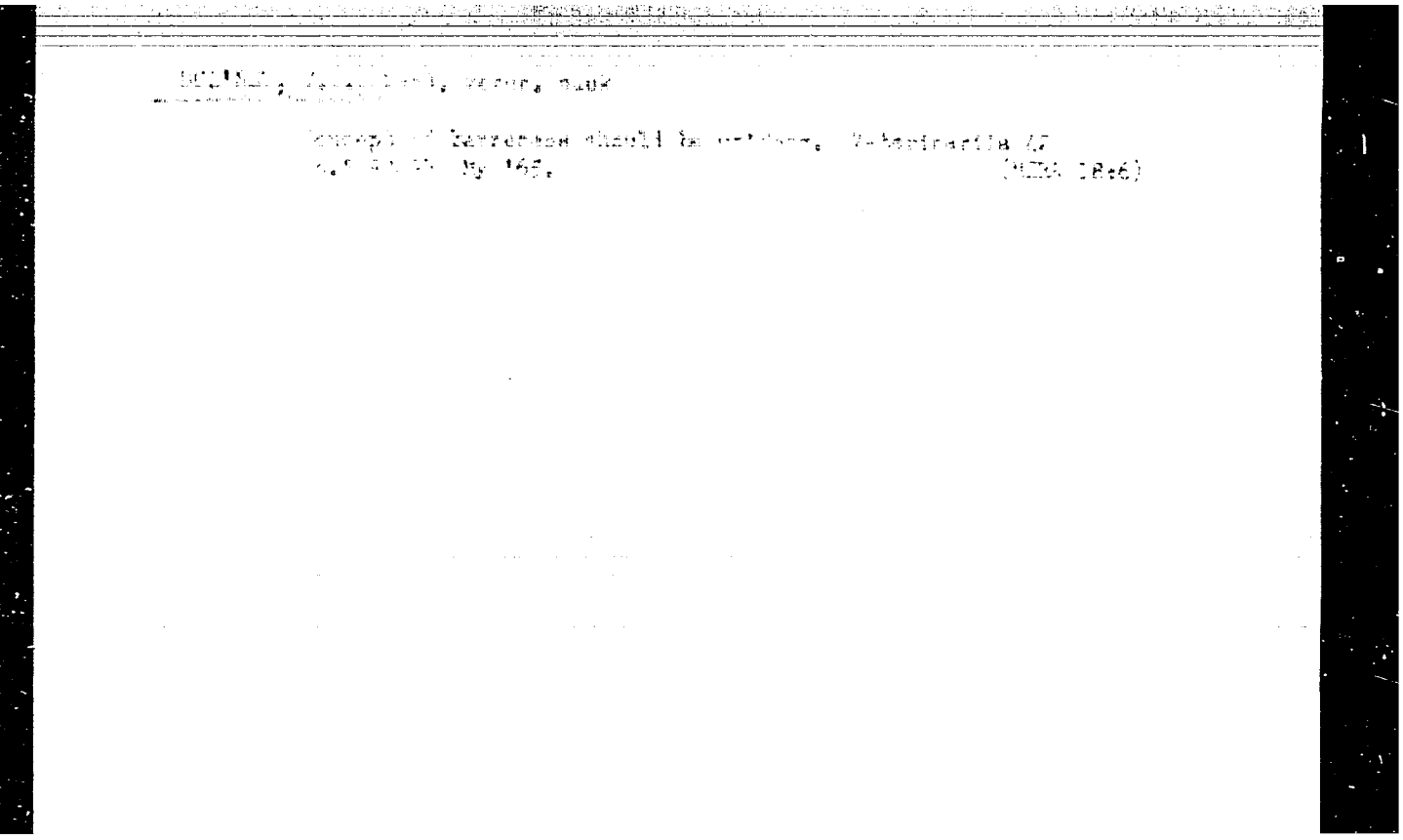

OSTAPENKO, K.; KRYKIN, A.; DUL'NEV, V.I.; OSETROV, V.S.; TOPALYAN, K.M.; FEDOROV, Yu.; YATSYSHIN, A.I.; TITOK, V.A.; YEPIFANOV, G.; RASTEGAYEV, Yu.

Controlling little-known animal diseases. Veterinariia 42 no.8:118-124 Ag '65. (MIRA 18:11)

GIDALEVICH, M.G.; DUL'NEVA, I.P.; ZASLAVSKIY, A.S.; UL'YANKIN, M.G.

Removal of water from washed grapes during the manufacture of juice. Kons. i ov. prom. 14 no.6:5-7 Je '59.
(MIRA 12:8)

1.Moldavskiy nauchno-issledovatel'skiy institut pishchevoy promyshlennosti.
(Grape juice)

3

POPOVSKIY, V.G.; GIDALEVICH, M.G.; DUL'NEVA, I.P.

Using new equipment for the manufacture of grape juice.
Kons.i ov.prom. 14 no.12:8-12 D '59. (MIRA 13:3)

1. Moldavskiy nauchno-issledovatel'skiy institut pishchevoy promyshlennosti.
(Grape juice)

POPOVSKIY, V. O.; OYDALEVICH, M. O.; DUL'NEVA, I. P.; ZASLAVSKIY, A. S.;
Prinimali uchastiye: UL'YANKIN, M. O.; ZELENSKAYA, M. I.;
SHCHELOKOVA, I. M.; DANILOV, M. A.; SHVETS, A. T.

Improving the technology of grape juice manufacture. Trudy MNIIPP 1:9-37 '61. (MIRA 16:1)

(Moldavia—Grape juice)

GIDALEVICH, M. G.; DUL'NEVA, I. P.; ZASLAVSKIY, A. S.; UL'YANKIN, M. G.;
Prinimali uchastiye: ZELENSKAYA, M. I.; SHCHELOKOVA, I. M.;
DANILOV, M. A.; SHVETS, A. G.

Investigating the efficiency of grape washing. Trudy MNIIPP 1:
39-44 '61. (MIRA 16:1)

(Moldavia—Grape juice)

UL'YANKIN, M. G.; Prinimali uchastiye: GIDALEVICH, M. G.; DUL'NEVA, I. P.; ZASLAVSKIY, A. S.; SHABALINA, N. S.; CHMILENKO, N. M.; PROKHOROVICH, L. Ye.

Separators for juice manufacture. Trudy MNIIPP 1:49-62 '61. (MIRA 16:1)

(Separators(Machines)) (Fruit juices)

GASYUK, G. N.; DUL'NEVA, I. P.; POPOVSKIY, V. G.

Effect of ultrasonic waves on the rate of tartar precipitation from grape juice. Trudy MNIIPP 1:75-82 '61.
(MIRA 16:1)

(Ultrasonic waves—Industrial applications)
(Grape juice)

GASIUK, G. N.; POPOVSKIY, V. G.; DUL'NEVA, I. P.; LEVINA, M. V.

Speeding the crystallization of tartar in the treatment of grape juice with ultrasonic waves in tanks. Trudy MNIIPP 1: 83-87 '61. (MIRA 16:1)

(Grape juice)
(Ultrasonic waves--Industrial applications)

POPOVSKIY, V. G.; GIDALEVICH, M. G.; DUL'NEVA, I. P.; Prinimali uchastiye: ZELENSKAYA, M. I.; SHCHEKLOKOVA, I. M.

Tartar crystallization during partial freezing of grape juice. Trudy MNIIPP 1:89-98 '61. (MIRA 16:1)

(Grape juice) (Crystallization)

GASYUK, G.N.; DUL'NEVA, I.P.; LEVINA, M.V.

Manufacture of clarified grape juice by means of a simplified technology with the application of ultrasonic waves. Trudy MNIIPP 2:56-66 '62. (MIRA 16:4)
(Grape juice) (Ultrasonic waves--Industrial application)

DUL'NEVA, I.P.; GAZYUK, G.N.; POPOVSKIY, V.G.; LEVINA, M.V.

Comparative study of the various methods of grape juice clarification. Trudy MNIIPP 5:14-28 '64.

(MIRA 19:1)

CASYUK, G.N.; DOL'NEVA, I.P.; LEVINA, M.V.; KIR'YANOV, M.I.

Experience in the production of clarified grape juices by a simplified technology with the application of ultrasonic waves and use of the available factory equipment. Trudy MNIIPP 5:28-32 '64. (MIRA 19:1)

DUL'NEVA, I.P.; LEVINA, M.V.; GASYUK, G.N.

Effect of some factors on the crystallization of potassium tartrates. Trudy MNIIPP 5:50-54 '64.

(MIRA 19:1)

LADYZHANSKIY, I.A.; POPOVSKIY, V.G.; GASYUK, G.N.; DUL'NEVA, I.P.; ZELENSKAYA, M.I.

Economic efficiency of using the simplified technology in grape juice production. Trudy MTIPP 5:91-96 '64.
(MIRA 19:1)

7(6), 24(4) SOV/20-121-4-17/54

AUTHORS: Veynberg, B. V., Dul'neva, N. M., Meyngard, P. N., Yakovenko, V. L.

TITLE: A Polar Spectrohydronephelometer (Polyarnyy spektrogidronefelometr)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 4, pp 634-636 (USSR)

ABSTRACT: This paper gives a short description of a polar spectrohydronephelometer which was designed in 1956 and of some results of the measurements by means of this apparatus. The polar hydronephelometer - an apparatus for transparency measurements - consists of a vessel filled with the water to be investigated. The objectives of the condenser and of a photometric device are immersed in this water. The luminosity of the ground glass of the photometer may be changed by 10^6 times by removal or turning of the measuring lamp and by introduction of a neutral light filter. The condenser sends a narrow cone of light into the water. If the decrease in light intensity is measured in a turbid water, the light of the condenser is directed straight into the objective of the photo-

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meter. The intensity of the scattered light is measured under various angles φ with respect to the beam of the condenser. By some measurements of this kind the indicatrix and the scattering index σ can be measured. The absorption index k may be deduced from the measured values of the index ε of the decrease of the light intensity and of σ. The measurements in the various parts of the spectrum are carried out by means of color filters. In order to determine the degree of the depolarization of light by water, the condenser was furnished with a polarizer and the photometric apparatus with an analyzer. The apparatus discussed in this paper makes it possible to investigate the properties of sea water and river water the extinction coefficient ε of which lies within the interval $0,1 - 6\ m^{-1}$. The indicatrices may be measured for any angle between $0,5^{\circ}$ and 145° and for 180° (backward scattering). According to many measurements, the properties of the investigated sea water vary considerably near the shore. The indicatrices of the scattering of natural waters are considerably elongated. The intensity of the scattered light has a minimum at scattering angles of $\sim 120^{\circ}$. For other regions of the sea, the shape of the scattering indicatrix depends only

A Polar Spectrohydronephelometer

slightly on the transparency of the water. The light which is scattered by the water is depolarized most at angles of 90 - 120°. The degree of the depolarization of light by water depends in a high degree on the initial orientation of its polarization plane. There are 4 figures and 2 references, 2 of which are Soviet.

PRESENTED: March 3, 1958, by V. V. Shuleykin, Academician

SUBMITTED: March 8, 1958

Card 3/3

DUL'NEVA, V.R.; SOLOVYOV, M.V.

Basic results of work in introducing and breeding grapes in the Kiev area. Trudy Bot. sada AN URSR 1:108-127 '49. (MLRA 10:8)
(Kiev Province--Viticulture)

DULNIEC, W.

Some experiences and conclusions concerning purchasing. p. 4.
(ROLNIK SPOLDZIELCA. Vol. 9(i.e. 10) no. 14, Apr. 1957, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957, Uncl.

Country : USSR P-5
CATEGORY :

ABS. JOUR. : RZBiol., No. 19, 1958, No. 87704

AUTHOR : Yashkin, I. I.; Dulo, V. D.
INST. :
TITLE : Procedures of Determining the Occurence Range and Periods of Flight of the White American Moth.
ORIG. PUB. : Zashchita rast. ot vredit. i boleznev, 1957, No 1, 40
ABSTRACT : It was found that males of the American White Moth [Fall Web-worm, Hyphantria cunea] are attracted by virgin females that are kept captive. This has been utilized for discovering nidi of the pest which, in a number of instances, have been detected in locations where prior, repeated and painstaking, search had been futile.

CARD:

TELENGA, N.A., doktor biolog. nauk; SIKURA, A.I., kand. biolog. nauk; DULO, V.Yu.; SMETNIK, A.I.

Using beauverin with DDT for controlling the Colorado beetle. Zashch. rast. ot vred. i bol. 8 no.4:48-49 Ap '63. (MIRA 16:10)

1. Nachal'nik Zakarpatskoy karantinnoy inspektsii (for Dulo).
2. Direktor Zakarpatskoy oblastnoy karantinnoy laboratorii (for Smetnik).

(Ukraine—Potato beetle—Biological control)
(Beauveria) (DDT (Insecticide))

DULO, V.Yu.; SMETNIK, A.I.

In the Transcarpathian Laboratory. Zashch. rast. ot vred. i bol. 9 no. 4:44-45 '64. (MIRA 17:5)

1. Nachal'nik Zakarpatskoy karantinnoy inspektsii (for Dulo).
2. Direktor Zakarpatskoy laboratorii karantinnoy laboratorii (for Smetnik).

ROZANOVA, M.A.; DULO, V.Yu.; SMETNIK, A.I.

Disinfecting fruit against American fall webworm. Zashch. rast. ot vred. i bol. 9 no.8:43-44 '64. (MIRA 17:12)

1. Starshiy toksikolog TSentral'noy karantinnoy laboratorii (for Rozanova). 2. Direktor Zakarpatskoy karantinnoy laboratorii (for Smetnik).

DULOV, A.

USSR/General Problems. A-

Abs Jour : Ref Zhur - Khimiya, No 10, 1957, 33384

Author : Krylov, I., Dulov, A.
Inst :
Title : Participation of D.I. Mendelyeyev in the Consultations on the Spontaneous Combustion of Yarn and Silk.

Orig Pub : Pozharnoye Delo, 1957, No 1, 8-9.

Abstract : No abstract.

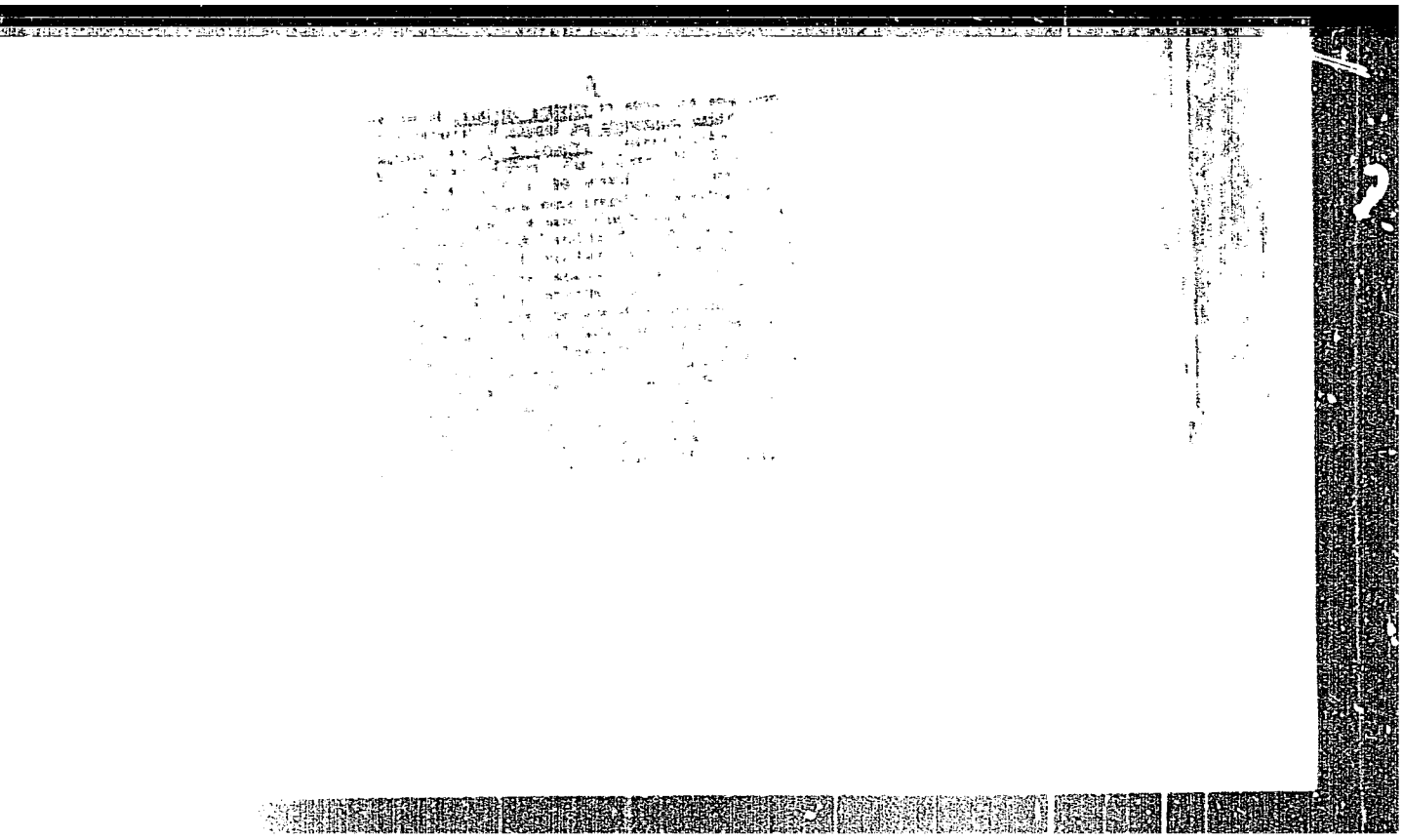
Card 1/1

Category: USSR B-9

Abs Jour: Zh--Kh, No 3, 1957, 7583

reaction the activity a decreases in the order Ni > Cr > Zn; for Ni catalysts a decreases in the order NiS > NiSe > NiO; for Cr catalysts, in the order CrSe > CrS > Cr_2O_3. In the opinion of the authors, the observed changes in activity and selectivity as one proceeds from the O- to the S- and Se--derivatives can be explained on the basis of the multiplet theory of catalysis.

Card : 2/2 -37-



The Production of Corundum at Low Temperatures and Its Catalytic Activity

They show that hydrothermal production causes no changes in the macrostructure of the corundum. The corundum produced in this manner had a higher bulk weight, but it was less active than the samples produced at higher temperatures. This is explained by its water content (0.84%), which is ten times greater than would be necessary for the production of a monolayer. Corundum has an activity that is less by two orders of magnitude than that of other Al_2O_3-phases. Individual samples partly had a dehydrogenizing and partly dehydrating effect. Some of the samples also introduced cracking reactions. The authors intend to continue the series of experiments with synthetic diaspore. There are 2 tables and 6 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: April 14, 1958

KOTLYAREVSKIY, I.L.; FISHER, L.B.; DULOV, A.A.; SLINKIN, A.A.

Oxidative polycondensation of p-diethynylbenzene. Izv.AN SSSR Otd.khim.nauk no.5:950-951 My '60. (MIRA 13:6)

1. Institut khimii Vostochno-Sibirskogo filiala Sibirskogo otdeleniya Akademii nauk SSSR.
(Benzene)

86043

S/020/60/135/003/027/039
B016/B054

15.8114 also 1164

AUTHORS: Nesmeyanov, A. N., Academician, Rubinshteyn, A. M., Dulov, A. A., Slinkin, A. A., Rybinskaya, M. I., and Slonimskiy, G. L.

TITLE: Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3, pp. 609 - 612

TEXT: The authors report on the continuation of their investigations of the properties of polymers produced on the basis of methyl-β-chloro-vinyl ketone (Refs. 1,2). These polymers show important electrical and magnetic properties; besides, they activate the oxidation and dehydrogenation of alcohols. In the present paper, the authors studied their physical properties, particularly their catalytic activity. Methyl-β-chloro-vinyl ketone polycondenses itself automatically when standing for 20-25 days with simultaneous separation of HCl. The formula $H(-C(COCH_3)=CH-)_nCl$ is

Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

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B016/B054

ascribed to the resulting mixture of polymers. The best polycondensation is attained in a sealed ampoule. Otherwise, too much triacetyl benzene is formed. On prolonged heating to 400°C in vacuo (12 torr), the polymers change (with simultaneous separation of water). Their carbon content increases. Apparently, there occurs a croton polycondensation on two adjacent acetyl groups each within the chain, or a polycondensation between individual chains by acetyl groups. The authors assume that practically both processes take place, since a certain oxygen amount of the carbonyl groups is always left in the polymer. The authors studied the properties of polymers heated with and without ferric chloride at 400°C/12 torr for 6 h. Table 2 and Fig. 1 show their most important physical characteristics as well as those of activated carbon and graphite. A comparison with activated carbon (natural carbon polymer) shows that the polymers investigated have a very small specific surface (S) and a relatively large amount of unpaired spins. Fig. 1 shows data of the change in specific electrical conductivity (σ) with temperature. Therefrom, the authors calculated the activation energy of the conductivity (E_σ, Table 2). They consider it possible that these polymers[15] are semiconductors with a

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Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

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B016/B054

forbidden-zone width of 1.6 ev in the temperature range of 160-350°C. The catalytic activity of the polymers was studied, besides that of activated carbon and graphite, by the example of oxidation of toluene with air to benzene and benzaldehyde in a continuous apparatus at 370-380°C. The authors conclude from the results that the polymers are very active in this reaction. They think it important that the polymer with a specific surface of ~0.3 m^2/g delivers the same yield of oxide products as activated carbon with a surface of 600 m^2/g, i.e., the specific activity of the polymer exceeds that of activated carbon by three orders of magnitude. The authors point out that it is unclear as yet what is the reason for such an increase in activity of the polymer. They think it possible that this activity is due to an increased concentration of spins on the very small surface of the polymer. Further parallel catalytic and physical investigations are recommended by the authors. There are 1 figure, 3 tables, and 7 Soviet references.

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86043

Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

S/020/60/135/003/027/039
B016/B054

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences USSR). Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: August 14, 1960

Card 1/1

MATVEYEVA, I.V.; SLINKIN, A.A., kand.khim.nauk, otv. red.; DULOV, A.A., mladshiy nauchnyy sotr., nauchnyy red.; PRUSAKOVA, T.A., tekhn. red.; RYLINA, Yu.V., tekhn. red.

[Heterogeneous catalysis in organic chemistry; bibliographic index of Soviet and foreign literature (1958-1960)] Geterogennyi kataliz v organicheskoi khimii; bibliograficheskii ukazatel' otechestvennoi i zarubezhnoi literatury (1958-1960). Moskva, Izd-vo Akad.nauk SSSR, 1962. 275 p. (MIRA 15:7)

1. Akademiya nauk SSSR. Institut organicheskoy khimii. Sektor seti spetsial'nykh bibliotek.
(Bibliography--Catalysis)

3337
S/190/62/004/002/002/021
B110/B101

15 8340

AUTHORS: Kotlyarevskiy, I. L., Fisher, L. B., Dulov, A. A., Slinkin, A. A., Rubinshteyn, A. M.

TITLE: Synthesis and some physical properties of poly-p-diethynyl benzene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 174 - 181

TEXT: Poly-p-diethinyl benzene with alternating ternary bonds and phenylene rings was synthesized from p-diethinyl benzene according to Yu. S. Zal'kind (Zh. obshch. khimii, 6, 530, 1936). The diethyl benzene mixture obtained during styrene production was dehydrogenated to divinyl benzene, brominated, dehydrobrominated, and polycondensed in water-alcohol or water-dioxane at 20 - 40°C in the presence of CuCl, NH_4Cl, and O_2 to orange-red, powdery oligomer (I) insoluble in water and organics:

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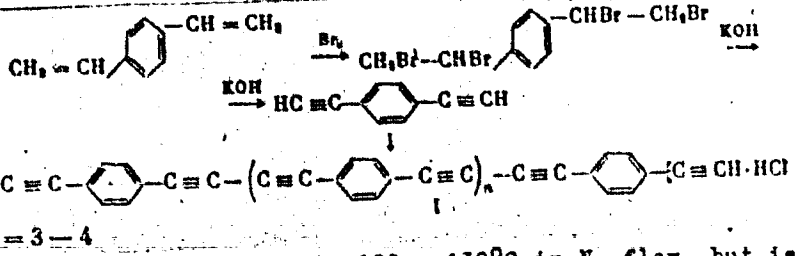
Synthesis and some physical...



$n = 3 - 4$

It explodes under rapid heating to 120 - 130°C in N_2 flow, but is no longer explosive in the form of pressed tablets up to 140°C in N_2 flow. Thermogravimetric and quantitative studies showed that the color change (to black) at 400°C was not due to decomposition but to intramolecular polymerization and structuration processes. The conductivity of tablets pressed at 5000 atm was examined with direct current at $5 \cdot 10^{-3}$ mm Hg. The tablets were heated in N_2 flow for 20 hr. The conductivity is described by: $\sigma = \sigma_0 \exp(-E/kT)$. Resistance and activation energy of conductivity decrease with increasing heating temperature (220 - 600°C) $\sigma \approx 10^{-2}$ $ohm^{-1} \cdot cm^{-1}$; E-0.1 ev at 600°C). Ultraviolet irradiation of a sample heated at 220°C raises the conductivity

Card 2/5

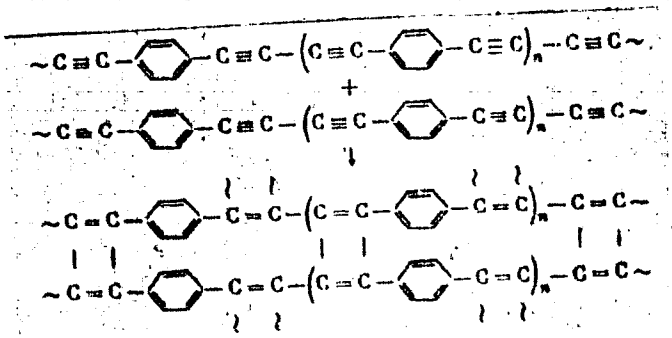
Synthesis and some physical...

reversibly by some orders. This effect decreases with increasing heating temperature (400°C) and disappears at 500 and 600°C completely. The sign of the thermo-emf and the reversible resistance decrease during oxygen adsorption confirm the hole character of the conductivity. The specific magnetic susceptibility of the initial oligomer determined between 20 and 160°C at H = 3500 - 4500 oersteds was $\chi = -0.4 \cdot 10^{-6}$, after pressing at 5000atm: $\chi = -0.2 \cdot 10^{-6}$. The maximum number of unpaired electrons exists on heating to 220°C, maximum χ value at 400°C, while ferromagnetic H dependence on χ was observed. The intensities of the epr signal as dependent on heating (2 hrs) in vacuo and N_2 (0.5% O_2) pass through a maximum at ~220°C. X-ray studies with an YPC-55(URS-55) device showed increasing crystal formation (favored by pressing) with increasing heating temperature. The electric and magnetic properties of slightly heated amorphous samples are determined by individual unpaired electrons and energetic barriers between the loosely bound, conjugated sections while ultraviolet irradiation increases the number of current carriers. At higher temperatures, the individual conjugated sections are combined to microcrystalline domains, and the number of electrons which have not yet entered the domain of strong interaction

Card 3/5

Synthesis and some physical...

decreases. At a certain stage, further crystal growth gives rise to formation of diamagnetic graphite structures. At 400, 500, 600°C, electric resistance and activation energy of conductivity decrease with increasing heating temperature due to the presence of strongly interacting electrons. Two types of structurally different polymers are likely to exist. The conversion of the orange-colored, explosive initial polymer at 200°C is likely to proceed according to:



Card 4/5

Synthesis and some physical...

At higher temperatures, domains are formed with ferromagnetic electron interaction due to cross linking which are superposed by diamagnetic interaction on further crystallization. Tal'roze is mentioned. There are 4 figures, 4 tables, and 14 references: 11 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: A. S. Hay, J. Org. Chem., 25, 1275, 1960; D. D. Eley et al., Disc. Faraday Soc., 28, 55, 1959.

ASSOCIATION: Institut khimii Vostochno-sibirskogo filiala AN SSSR (Institute of Chemistry of the East Siberian Branch AS USSR). Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy AS USSR)

SUBMITTED: January 30, 1961

Card 5/5

37304
S/020/62/143/006/017/024
B106/B138

15.8340

AUTHORS: Dulov, A. A., Slinkin, A. A., Liogon'kiy, B. I., Rubinshteyn, A. M.

TITLE: The importance of conjugation and ordering to the semiconductor properties of polymers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962, 1355-1357

TEXT: To study the role of the degree of conjugation and the total structure of polymers in the formation of semiconductor properties, investigation was made of the electric, magnetic, and crystallographic properties of polyazophenylenes and aromatic polymers, which contain the groups $-CH_2-$ and $-CH_2-CH_2-$ between the benzene rings. Table 1 shows the results. The semiconductor properties of polymers containing conjugated bonds are determined by two rival factors: (1) the properties of individual macromolecules (degree of delocalization of π-electrons, flexibility of the chain); and (2) the properties of the solid as a whole (packing density, character of electron interaction between macromolecules). The types of electron interaction in polymers with conjugated bonds are

Card 1/3

The importance of conjugation...

dealt with in a communication by I. L. Kotlyarevskiy, L. B. Fisher, A. A. Dulov, A. A. Slinkin, A. M. Rubinshteyn (Ref. 6: Vysokomolek. soyed., 4, no. 1 (1962)). Where the degree of conjugation of the polymer is not too low, the electric characteristics are determined by the second factor. This is confirmed by the following: if methylene bridges, which reduce conjugation along the chain, are introduced in the macromolecule (polymer 2 in Table 1), the semiconductor properties are not destroyed but rather intensified (E_σ decreases), as the mobility of chains and the packing density increase, promoting electron interaction between the chains. With introduction of the group $-CH_2-CH_2-$ (polymer 3), the reduction of conjugation is so intense that it is no longer compensated by an increase in packing density. In all the polymers investigated, the effect of relaxation polarization (reversible decrease of electrical conductivity on application of direct current) was observed. It is due to the translation of charged sectors of the polymer chains in the electrostatic field. The temperature of this polarization (200°C) is 30-50°C lower for polymer 3, than for the others, which shows that chain mobility is highest with this polymer. Similar results were obtained for the electric properties of polyferrocenes (Ref.7: A. A. Dulov, A. A. Slinkin, A. M. Rubinshteyn, Vysokomolek. soyedin.,

Card 2/4

4 (1962)). A. A. Berlin assisted in the present work. There are 2 figures and 1 table. The English-language references read as follows: D. D. Eley. G. D. Parfitt, Trans. Farad. Soc., 51, 1529 (1955); M. Hatano, S. Kambara, S. Okamoto, J. Polymer Sci., 51 (156), 26 (1961).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR). Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: January 5, 1962, by B. A. Kazanskiy, Academician

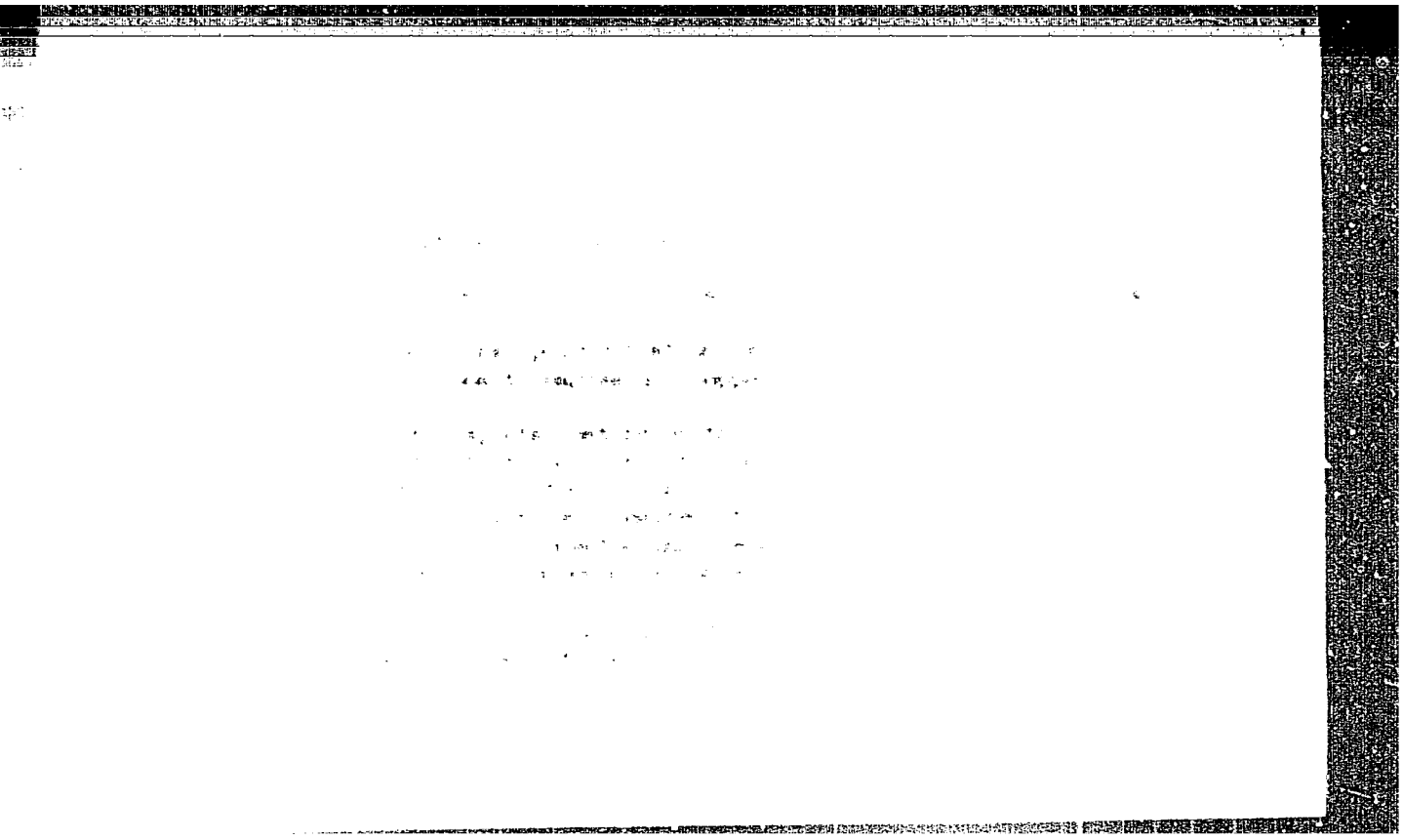
SUBMITTED: January 2, 1962

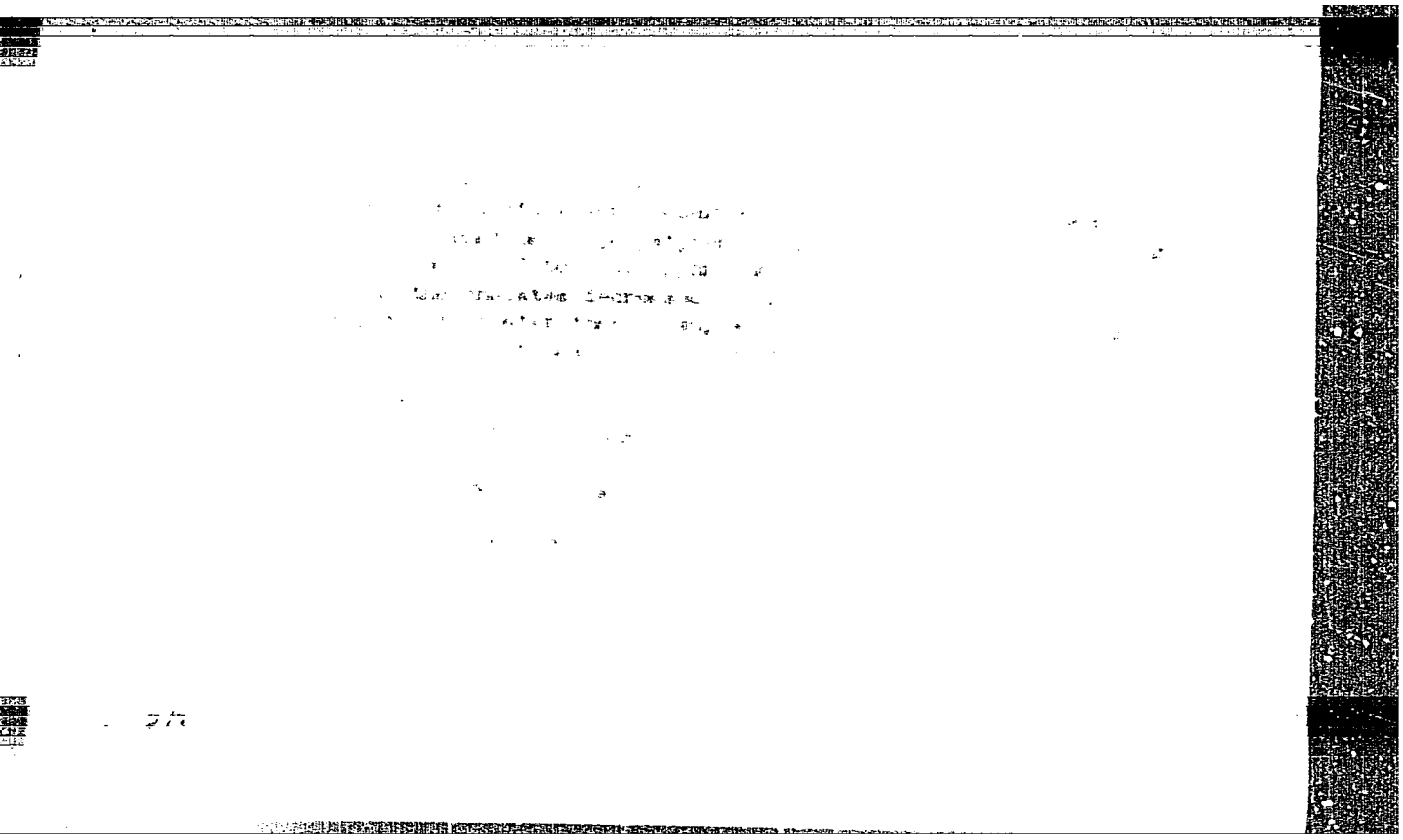
Legend to Table 1: (I) Structural formula of the polymer; (II) molar weight; (III) activation energy of the electrical conductivity, E_σ (120 - 250°C), ev; (IV) σ_o, $ohm^{-1} \cdot cm^{-1}$; (V) irreversible change in σ after heating; (VI) number of unpaired spins per g of N (on the basis of epr); (...)

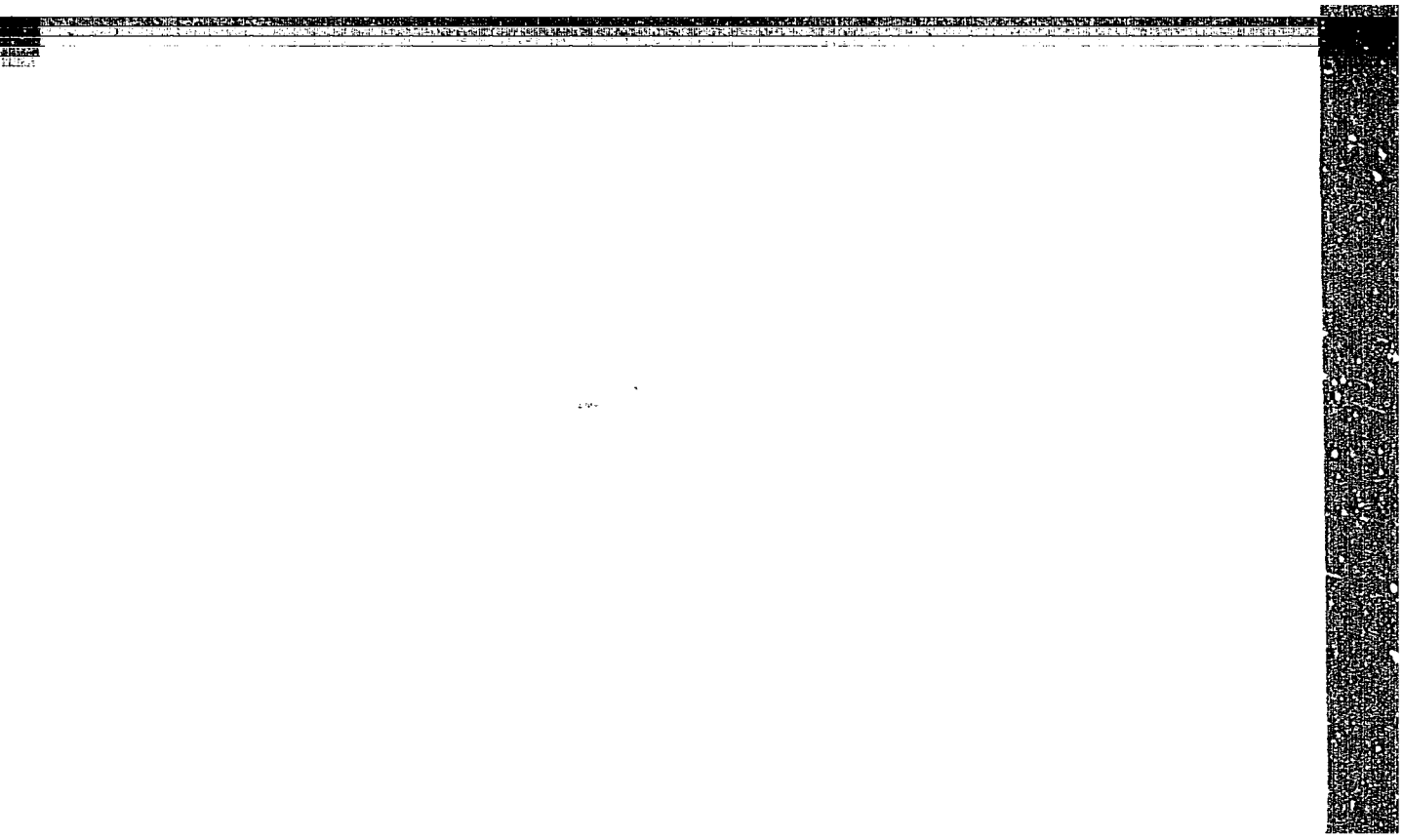
Card 3/4

TAGER, Anna Aleksandrovna. Prinimali uchastiye: TSVANKIN, D.Ya.; BORISOVA, T.I.; BURSHTEYN, L.L.; SLINKIN, A.A.; DULOV, A.A.; MIKHAYLOV, G.P., red.; ROGAYLINA, A.A., red.; SHPAK, Ye.G., tekhn. red.

[Physical chemistry of polymers] Fiziko-khimiia polimerov. Moskva, Goskhimizdat, 1963. 528 p. (MIRA 16:12)
(Polymers)







DULOV, A.A.; SLINKIN, A.A.; RUBINSHTEYN, A.M.; KOTLYAREVSKIY, I.L.

Electric conductivity, electron paramagnetic resonance spectra, and the structure of polyarylene-polyacetylenes. Izv. AN SSSR. Ser. khim. no.11:1910-1920 N '63. (MIRA 17:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR. i Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR.

DULOV, A.A.; SLINKIN, A.A.; RUBINSHTEYN, A.M.

Electric and magnetic properties of thermally treated polymers based on ferrocene. Vysokom. soed. 5 no.10:1441-1446 O '63. (MIRA 17:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

ACCESSION NR: AP4010036 S/0062/64/000/001/0026/0034

AUTHOR: Dulov, A. A.; Slinkin, A. A.; Rubinshteyn, A. M.

TITLE: Electric and magnetic properties of products from the thermal treatment of polymethylvinylketone

SOURCE: AN SSSR, Izvestiya. Ser. khim., no. 1, 1964, 26-34

TOPIC TAGS: polymethylvinylketone, electric properties, magnetic properties, crystallinity, electric conductance, EPR spectra, polymethylvinylketone adsorption of oxygen, semiconductor, p type semiconductor, n type semiconductor, polymethylvinylketone thermal treatment

ABSTRACT: The electric conductance, nature of the EPR signal and crystallinity of polymers obtained by heating polymethylvinylketone at temperatures up to 870C in a nitrogen, hydrogen or air atmosphere were studied. The electric properties and nature of the effect of oxygen on the EPR signal and conductance differ sharply in polymethylvinylketone heated at low temperatures (400—500C) from those

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ACCESSION NR: AP4010036

of the polymer heated to 670—870C: with increasing temperature oxygen has an increasing effect on the intensity and width of the EPR signal; the effect of oxygen on the conductance decreases; asymmetric EPR lines appear because of the graphitic nature acquired by the polymer particles. Below 570C the polymer, in a vacuum, behaves as an n-type semiconductor; in air, as the p-type. From the effects on the EPR spectra it is concluded that the adsorption of oxygen at temperatures up to 500C is due to chemosorption, but in the 570—600C range it is both chemical and physical adsorption. In the polymer treated at low temperature, the electric conductance is strongly affected by oxygen and is determined by the electron exchange between areas with a high degree of conjugation in the polymer. On increasing the temperature of treatment, the formation of unpaired electrons in the polymer is not due to a rupture of the C - C bonds, but to the formation of complexes with transfer of the charge. Orig. art. has: 7 figures and 3 tables.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii Nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00041152(

ACCESSION NR: AP4010036

SUBMITTED: 01Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: MA, PH NO REF SOV: '009 OTHER:: 006

Card 3/3

RUBINSHTEYN, A. M.; DULOV, A. A.; PRIBYTKOVA, N. A.

Effect of K_2O on the activity, selectivity, and electrical properties of alumina-chromia catalysts. Izv AN SSSR Ser Khim no. 4:604-613 Ap '64. (MIRA 17:5)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

ACCESSION NR: AP4037243 S/0062/64/000/005/0909/0912

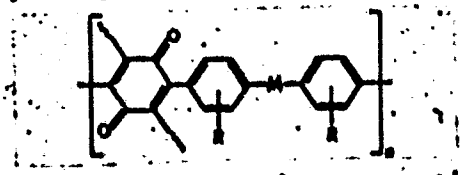
AUTHOR: Dulov, A. A.; Liogon'kiy, B. I.; Ragimov, A. V.; Slinkin, A. A.; Berlin, A. A.

TITLE: Electrical and magnetic properties of polyarylenequinones

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 5, 1964, 909-912

TOPIC TAGS: organic semiconductor, semiconducting polymer, polyarylenequinone

ABSTRACT: A study has been made of the electrical and paramagnetic properties of polyarylenequinones (I) with the general formula



and x-ray diffraction patterns have been recorded. Polymers I

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ACCESSION NR: AP4037243

were synthesized from the quinone and the bisdiazotized diamines. Their structure was linear or three-dimensional depending on the reactant ratio (1/1 or 1/3; or 1/1 and cross linked with benzidine). The temperature dependence of d-c electrical conductivity for pellet samples of I was determined in the range 100—350C at 10^{-5} mm Hg. A correlation was found between molecular structure, packing density, and electrical properties. Reduction of the backbone quinone radicals to the stable semiquinone form resulted in a sharp rise in conductivity (the change in activation energy remained small). This is believed to confirm the participation of unpaired electrons in the conduction process. This research was conducted at the Institute of Chemical Physics, Academy of Sciences SSSR, and the Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences SSSR. Orig. art. has: 1 formula, 2 figures, and 1 table.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR); Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

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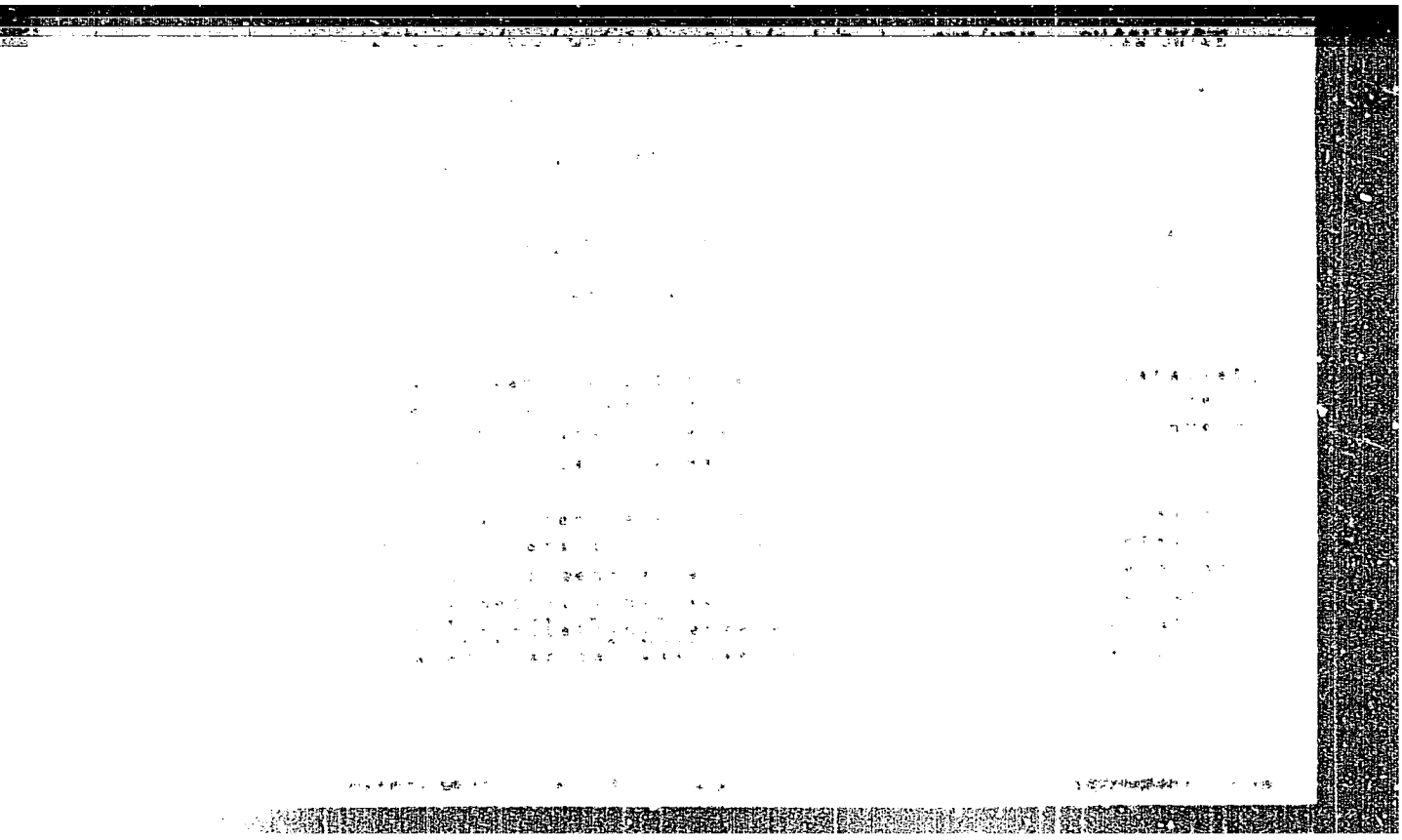

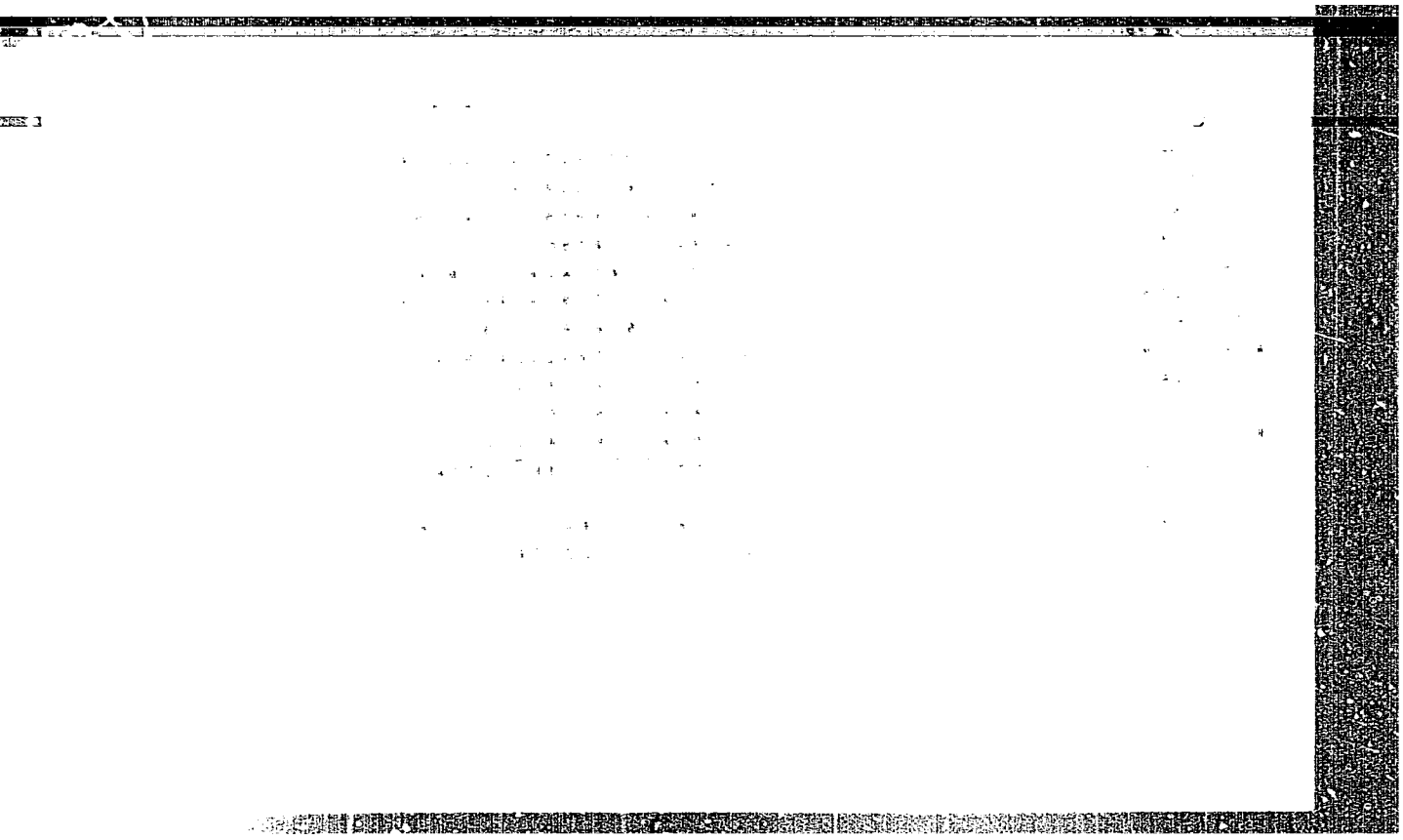

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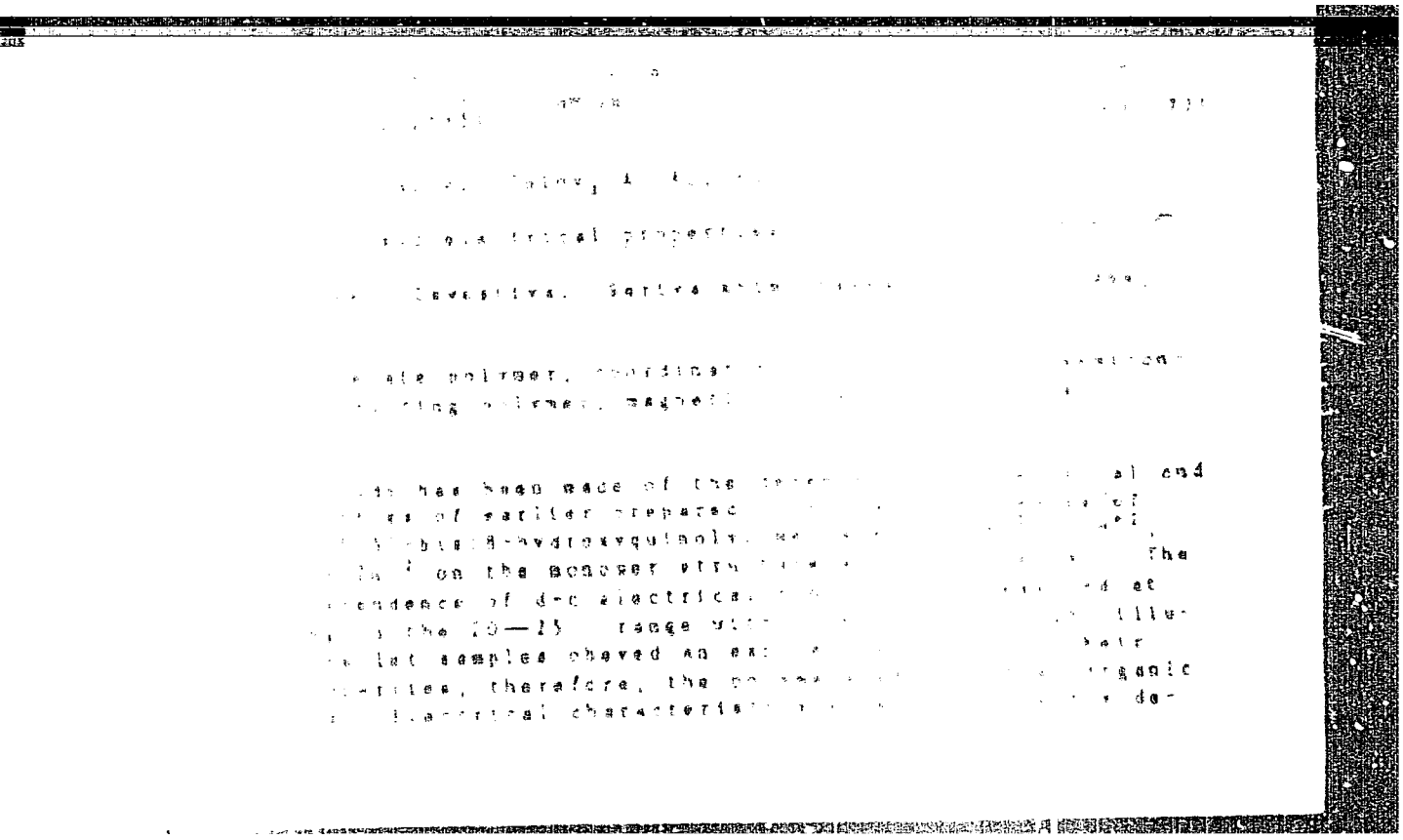

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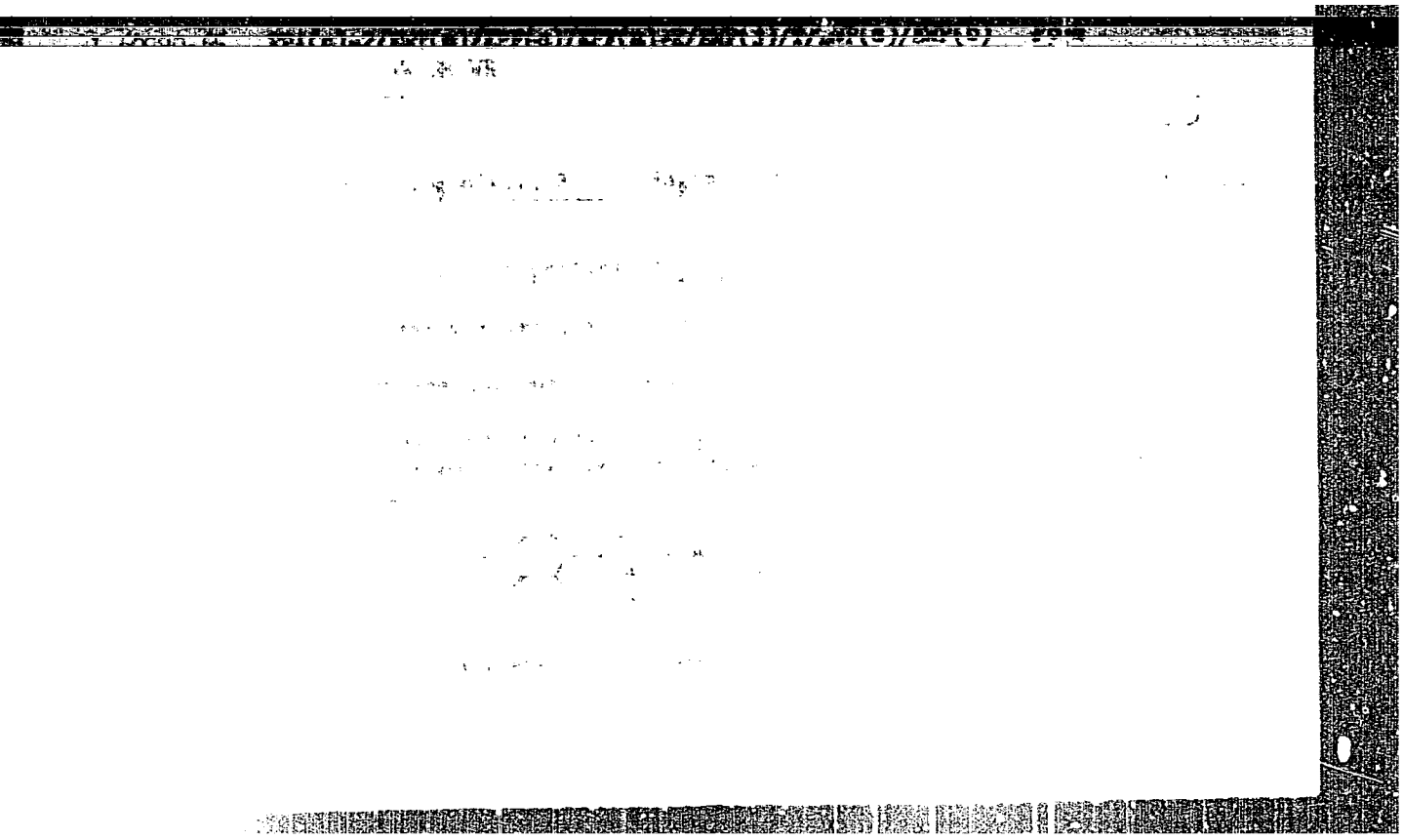

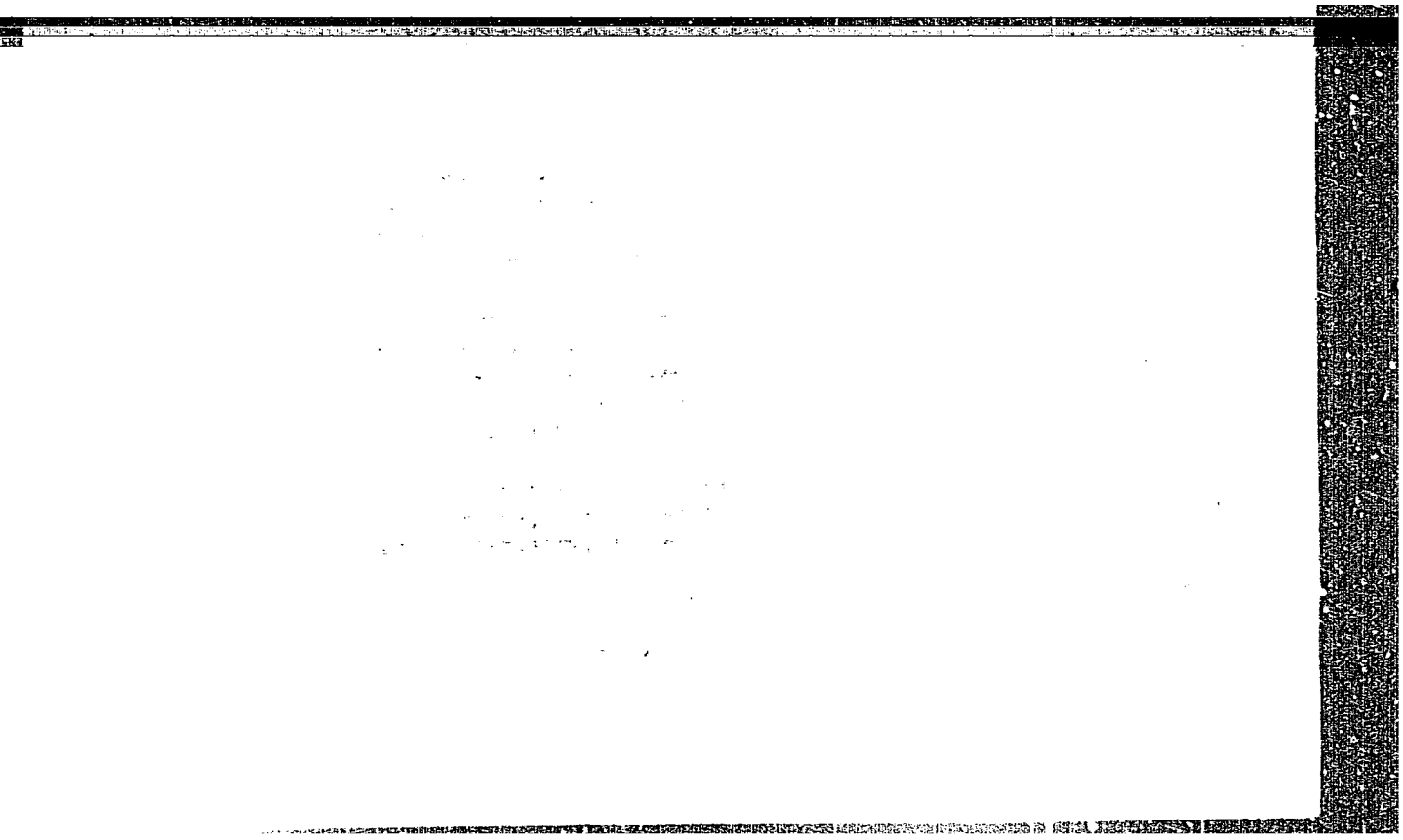

SLINKIN, A.A.; DULOV, A.A.; RUBINSHTEYN, A.M.

Magnetic and electric properties of chelate polymers. Izv. AN SSSR. Ser. khim. no.10:1769-1775 O '64. (MIRA 17:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

L 02972-67 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6033060 SOURCE CODE: UR/0074/66/035/010/1853/1882

AUTHOR: Dulov, A. A.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, AN SSSR, Moscow (Institut organicheskoy khimii AN SSSR)

38
B

TITLE: Semiconducting polymers

SOURCE: Uspekhi khimii, v. 35, no. 10, 1966, 1853-1882

TOPIC TAGS: organic semiconductor, semiconducting polymer

15

ABSTRACT: The state-of-the-art of polymeric organic semiconductors has been reviewed with emphasis on electrical, magnetic, and structural investigations under the following headings: specific properties of semiconducting polymers (chemical structure and morphology, electrical properties, static magnetic susceptibility and wide EPR signal, and narrow EPR signal); nature of EPR signal; electrical conduction mechanism; connection between electrical and magnetic phenomena and generalized theories of specific effects in organic semiconductors. The review is based on 393 references published up to January 1966 and individual papers published at a later date, of which approximately four-fifths are of Communist World origin.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 294/ OTH REF: 099/ ATD PRESS: 5099

Card 1/1 egh UDC: 541.6:541.311.33

L 45725-66 EWT(m)/EWP(1)/T RM
ACC NR: AP6024413 (N) SOURCE CODE: UR/0020/66/169/001/0111/0113

AUTHOR: Dulov, A. A.; Slinkin, A. A.; Rubinshteyn, A. M.; Kotlyarevskiy, I. L.; Shvartsberg, M. S.; Andriyevskiy, V. N.; Zanina, A. S.; Shergina, S. I.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR); Institute of Chemical Kinetics and Combustion, Siberian Branch, Academy of Sciences, SSSR (Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Influence of disturbance of conjugation on the properties of semiconducting polymers

SOURCE: AN SSSR. Doklady, v. 169, no. 1, 1966, 111-113

TOPIC TAGS: semiconducting polymer, conjugated polymer, semiconductor conductivity

ABSTRACT: It has been frequently reported in the literature that the disturbance of conjugation in organic semiconductors as a result of either noncoplanarity of aromatic rings or introduction of aliphatic, oxygen, or sulfur bridges into the conjugated chain lowers the electric characteristics. In the present paper, the intensity of the influence of these different types of conjugation disturbances was compared in a series of polymers of a single class, the polyarylenepolyacetylenes, whose electrical conductivity σ and ESR spectra were measured. The introduction of various groups disturbing the conjugation into the conjugated chain was found to hinder the processes of

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ACC NR: AP6024413

current transfer. The relative effectiveness of this hindering influence of different groups may change with the flexibility of the molecules, which affects the intermolecular interactions. In particular, the biphenylene grouping, which sharply decreases the electric properties of "linear" structures, does not affect the properties of polymers consisting of more flexible oxygen-containing molecules. It is notable that bridge groups do not appreciably lower the semiconducting properties. The paper was presented by Academician Kazanskiy, B. A., 23Oct65. Orig. art. has: 1 table.

SUB CODE: 07/ SUBM DATE: 23Jul65/ ORIG REF: 014/ OTH REF: 003

Card 2/2 ULR

SHERSHEVSKIY, A.M.; DULOV, A.V.

I.P. Mersheevskii in the medical council. Zhur. nevr. i psikh 59 no.3: 360-361 '59 (MIRA 12:4)

1. Kafedra psikhiatrii (nachal'nik - prof. A.S. Chistovich) Voyenno-meditsinskiy ordena Lenina akademii imeni S.M. Kirova.
(BIOGRAPHIES, Mersheevskii, Ivan P. (Rus))

DULOV, A.V.; SHERSHEVSKIY, A.M.

Some recent data on the forensic psychiatric activities of I.M.Balinskii. Zhur.nevr. i psikh. 59 no.4:493-495 '59. (MIRA 12:6)

1. Kafedra psikhiatrii (nachal'nik - prof.A.S.Chistovich) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(BIOGRAPHIES,
Balinskii, I.M. (Rus))

KHYLOV, I.P.; DULOV, A.V.

Participation of D.I. Mendeleev in the publication of a manual on legal chemistry; on the one hundred twenty-fifth anniversary of his birth. Sud.-med.ekspert. 2 no.3:36-40 Jl-S '59. (MIRA 13:4)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova i Belorusskiy gosudarstvennyy universitet imeni V.I. Lenina.
(MENDELEEV, DMITRII IVANOVICH, 1834-1907)

DULOV, V. G.

DULOV, V. G. - "Irregular movement of a gas in tubes with a broken cross-sectional surface." Leningrad, 1955. Leningrad Order of Lenin State U imeni A. A. Zhdanov. (Dissertations for degree of Candidate of Physicomathematical Sciences.)

SO: Knizhnaya letopis', No 48. 26 November 1955. Moscow.

SOV/124-58-8-8564

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 33 (USSR)

AUTHOR: Dulov, V. G.

TITLE: The Transient Process of Gas Escape from a Gas Cylinder (Neustanovivshiysya protsess istecheniya gaza iz tsilindricheskogo ballona)

PERIODICAL: Vestn. Leningr. un-ta, 1957, Nr 13, pp 132-145

ABSTRACT: An examination is made of the transient one-dimensional motion of an ideal gas inside a cylindrical conduit during the escape of the gas

10(1)

AUTHOR: Dulov, V.G. SOV/43-58-19-8/16

TITLE: Disintegration of Arbitrary Gas Parameters Rupture in the Jump of the Area of a Section (Raspad proizvol'nogo razryva parametrov gaza na skachke ploshchadi secheniya)

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1958, Nr 19(4), pp 76 - 99 (USSR)

ABSTRACT: In a tube with sudden variation of the sectional area the author investigates momentary states of gases for which the gas parameters have completely arbitrary different values at both sides of the jump of the cross section. Such states originate e.g. during the passage of a shock wave through the point of the sudden contraction of the tube. The author differentiates 16 different cases which are separately discussed in detail. The most essential supposition of the author is the assumption that the investigated appearances can be described sufficiently well by the unidimensional theory. The author thanks I.P. Ginzburg for the interest in his paper. There are 5 figures, and 5 references, 2 of which are Soviet, 1 German, 1 Italian, and 1 American.

Card 1/2

S/147/61/000/004/004/021
E195/E135

10.1410

AUTHORS: Dulov, V.G., and Rayzberg, B.A.

TITLE: Initial stage of wake formation

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika, no.4, 1961, 30-33

TEXT: This work is based on the following scheme of wake formation. The shock wave spreads in an axially-symmetrical channel, bounded by solid walls. At the instant $t = 0$, the wave reaches the outlet and passes into the atmosphere. During this process an infinitely small section of the gas column, which trails the wave, spreads beyond the limits of the channel where an infinitely thin annular break is then formed. The disintegration of this break leads to the formation of a diverging, rapidly decaying subsidiary shockwave, a rarefied wave, disturbing the uniform stream behind the front of the main shockwave and the steady-state break, which constitute the boundaries of the wake. By ignoring the slight bending of the plane of the main wave front, it is possible to consider the formation of the wake as a continuous process resulting from the disintegration. The initial

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parameters of this disintegration may be found from the relations of the "one-dimensional" theory discussed in a paper by K.P. Stanyukovich [Ref.1: Elementy prikladnoy teorii neustanovivshikhsya dvizheniy gaza ("Applied theory for non-steady motion of gas"), Oborongiz, M., 1953]. The important relationship between the two pressure ratios $\bar{P}_2$ ($\bar{P}_2 = P_2/P_1$) and $\bar{P}$ ($\bar{P} = P/P_1$) is given in the form:

$$\frac{2}{k-1}\left[1-\frac{\bar{P}_2}{\bar{P}}^{\frac{k-1}{2k}}\right]=\frac{2}{k(k-1)}\,\frac{\sqrt{1+\frac{k+1}{k-1}\bar{P}}}{\sqrt{1+\frac{k+1}{k-1}\bar{P}_2}}-\frac{\bar{P}_2-1}{\sqrt{\bar{P}\left(\frac{k+1}{k-1}+\bar{P}\right)}} \qquad (5)$$

where: P_2 is the pressure behind the shockwave of disintegration, P_1 is the atmospheric pressure, and P the pressure behind the main shockwave. If the pressure is in the range $2 < P < 200$ and the adiabatic exponent $K = 1.4$, then a linear function $\bar{P}_2 = 0.24\bar{P} + 1.2$ may be used; the error due to this approximation does not exceed 10%. Fig.2 shows a graph representing the

Initial stage of wake formation S/147/61/000/004/004/021
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trajectory of the boundary point of the shockwave and based on values of $P_o = 25$ kg/cm^2 and $K = 1.4$.
The form of the zone excited by the movement of the wave is roughly conical.
There are 2 figures.

ASSOCIATION: Kafedra aerogazodinamiki, Leningradskiy mekhanicheskiy institut
(Department of Aerogasdynamics, Leningrad Institute of Mechanics)

SUBMITTED: November 9, 1960

Card 3/4

39774
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E031/E435

24.4300

AUTHOR: Dulov, V.G.

TITLE: An approximate method of calculating axisymmetric supersonic isentropic gas flows for small expansions of the flow

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika, no.2, 1962, 8-14

TEXT: Current methods of solving axisymmetric isentropic flow problems are either variations of the method of characteristics or are based on linearized equations and boundary conditions. In a sense, the proposed method brings together these two methods - only a partial linearization is effected but the simplicity of the linearized method is retained. The usefulness is restricted by the requirements of isentropic flow and small expansion. The equations of steady axisymmetric isentropic flow in characteristic coordinates ξ, η can be given in the form

An approximate method ...

$$\vartheta_1 = \frac{\cos^2\alpha}{\sin^2\alpha - \frac{k-1}{2}}\,\alpha_1 + \frac{\sin\alpha\cdot\sin\vartheta}{\sin(\alpha+\vartheta)}\cdot\frac{r_1}{r} = 0,$$

$$\vartheta_2 = \frac{\cos^2\alpha}{\sin^2\alpha + \frac{k-1}{2}}\,\alpha_2 + \frac{\sin\alpha\cdot\sin\vartheta}{\sin(\alpha-\vartheta)}\cdot\frac{r_2}{r} = 0,$$

$$x_1 = \operatorname{ctg}(\vartheta+\alpha)\cdot r_1, \qquad (1)$$

$$x_2 = \operatorname{ctg}(\vartheta-\alpha)\cdot r_2.$$

where ϑ is the angle between the local velocity vector and the axis of symmetry; α is the Mach angle; r is the distance from the axis of symmetry, x is the distance along that axis and k is the adiabatic index. It is assumed that ϑ is small compared with α, so that the following approximations can be made

Card 2/4

An approximate method ...

In determining the conditions on the characteristics, cot α is approximated by the linear function mA + n where

$$\frac{\sin\alpha\cdot\sin\theta}{\sin(\alpha\pm\theta)}\Rightarrow v,$$

$$\operatorname{ctg}(v\pm\alpha)\Rightarrow\pm\operatorname{ctg}\alpha.$$

The value of m is given and that of n is not necessary. Eq.(1) now become

$$x_\xi-[W(\eta)-V(\xi)]\cdot(\ln r^{\frac{m}{2}})_\xi=0, \qquad (6)$$

$$x_\eta+[W(\eta)-V(\xi)]\cdot(\ln r^{\frac{m}{2}})_\eta=0.$$

where $W(\eta)$ and $V(\xi)$ are arbitrary functions. In solving these equations it is assumed that

$$-\frac{x}{m}\Rightarrow\frac{W(\eta)+V(\xi)}{2}.$$

Card 3/4

An approximate method ...

The general solution is then

$$x = r \cdot C(\eta) - m\,W(\eta),$$
$$x = r \cdot D(\xi) - m\,V(\xi), \qquad (7)$$

where $C(\eta)$ and $D(\xi)$ are new arbitrary functions. The accuracy of the method if evaluated by comparing results with the exact solution for flow from a simple source. For $1.2 < M < 5$ and $\nu \leqslant 30°$, the difference between the two solutions is less than 10%. The accuracy improves as k tends to unity.
There are 2 figures.

ASSOCIATION: Leningradskiy mekhanicheskiy institut
Kafedra aerogazodinamiki (Leningrad Institute of Mechanics, Department of Aerogasdynamics and Flight Dynamics)

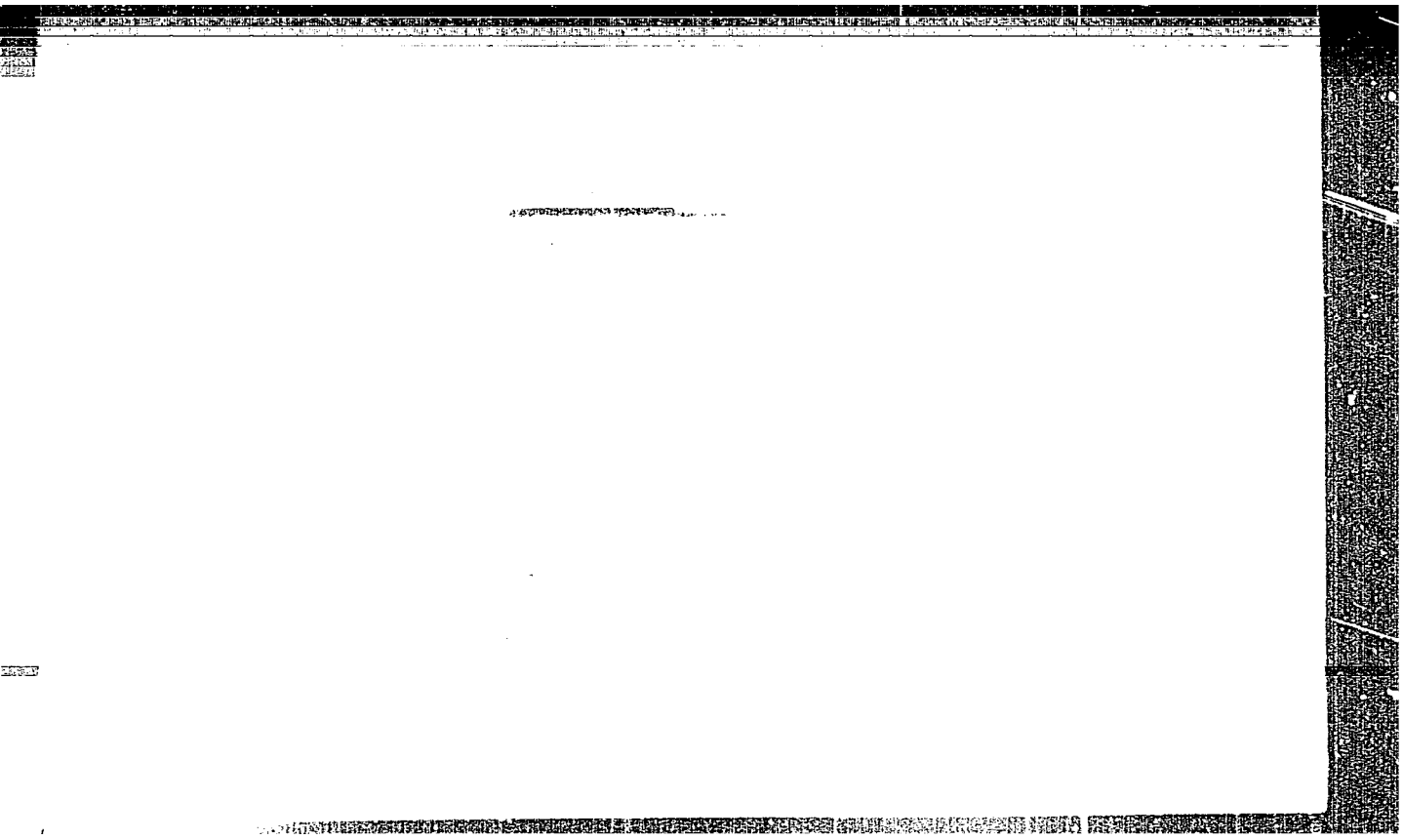
SUBMITTED: June 12, 1961

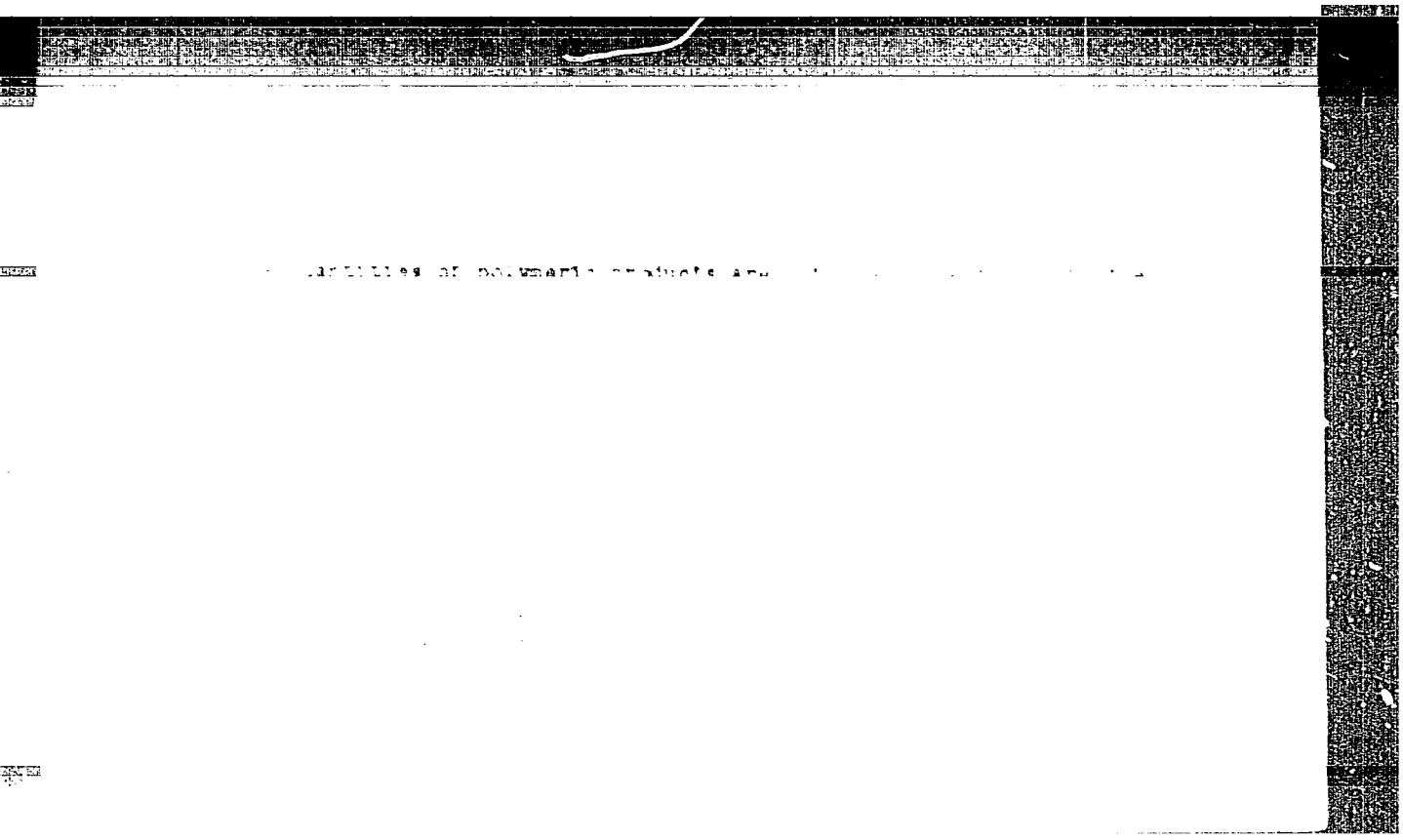
Card 4/4

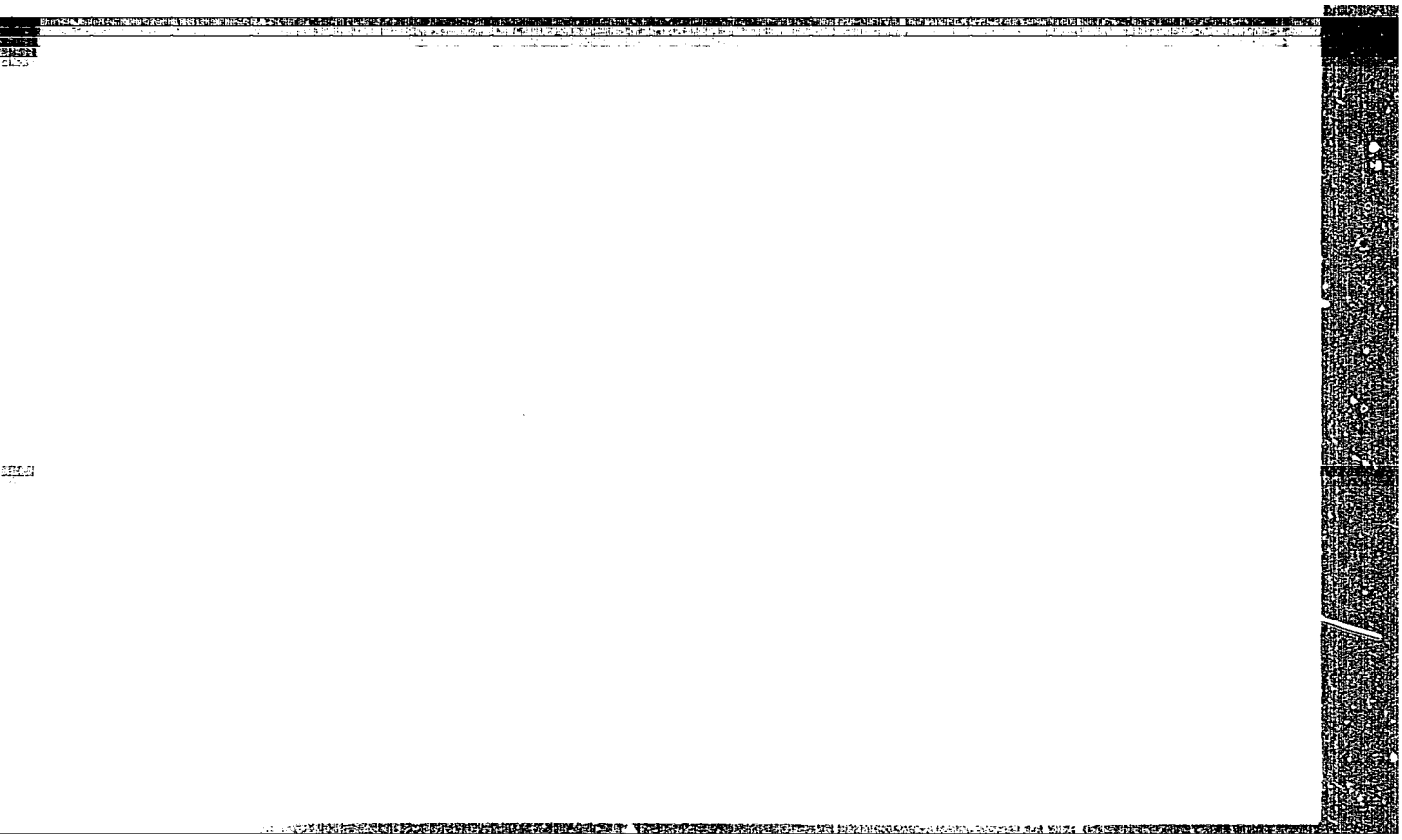
DULOV, V.G.

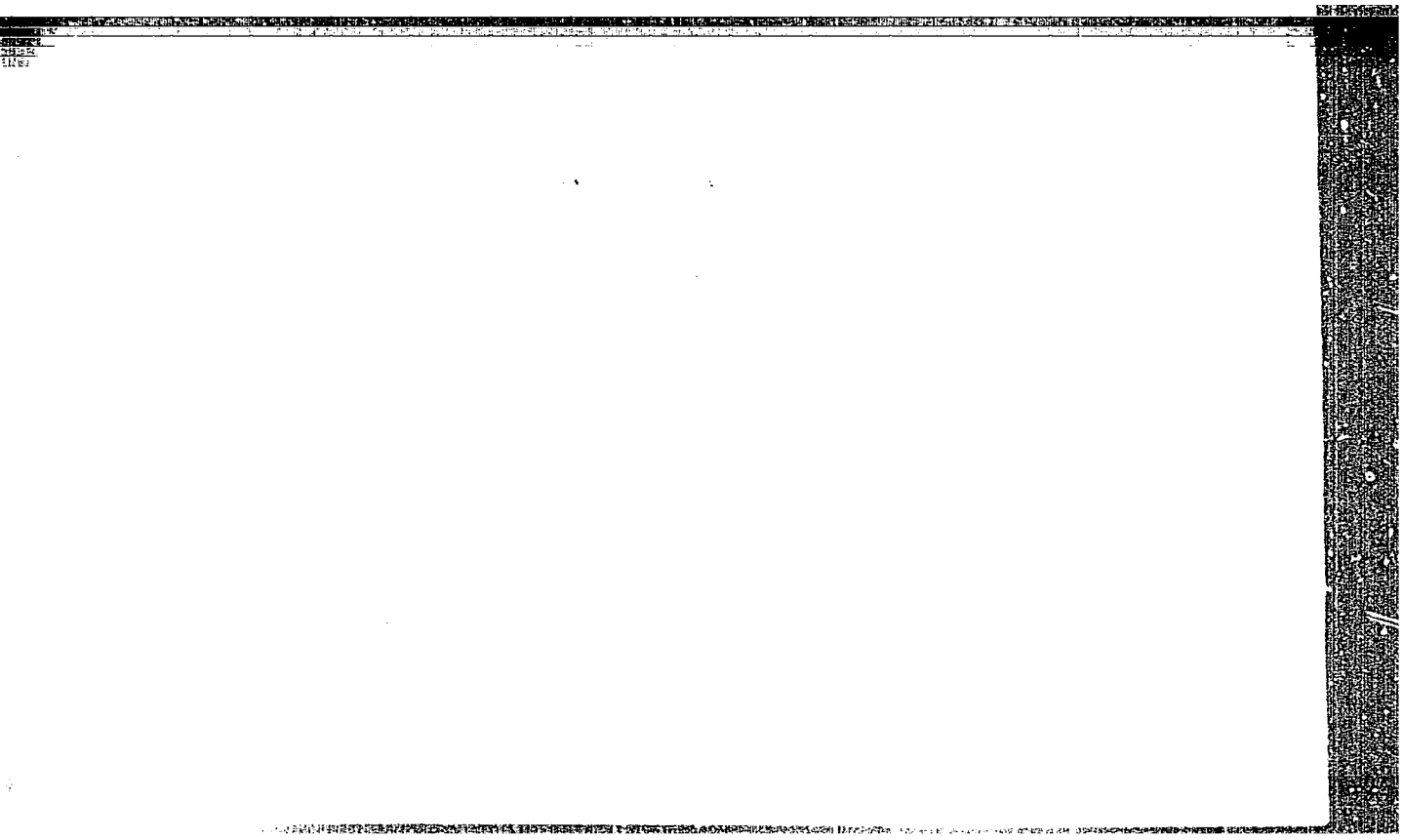
Propagation of the shock wave in a channel with variable cross section. Izv.vys.ucheb.zav.; av.tekh. 5 no.3:17-24 '62.
(MIRA 15:9)

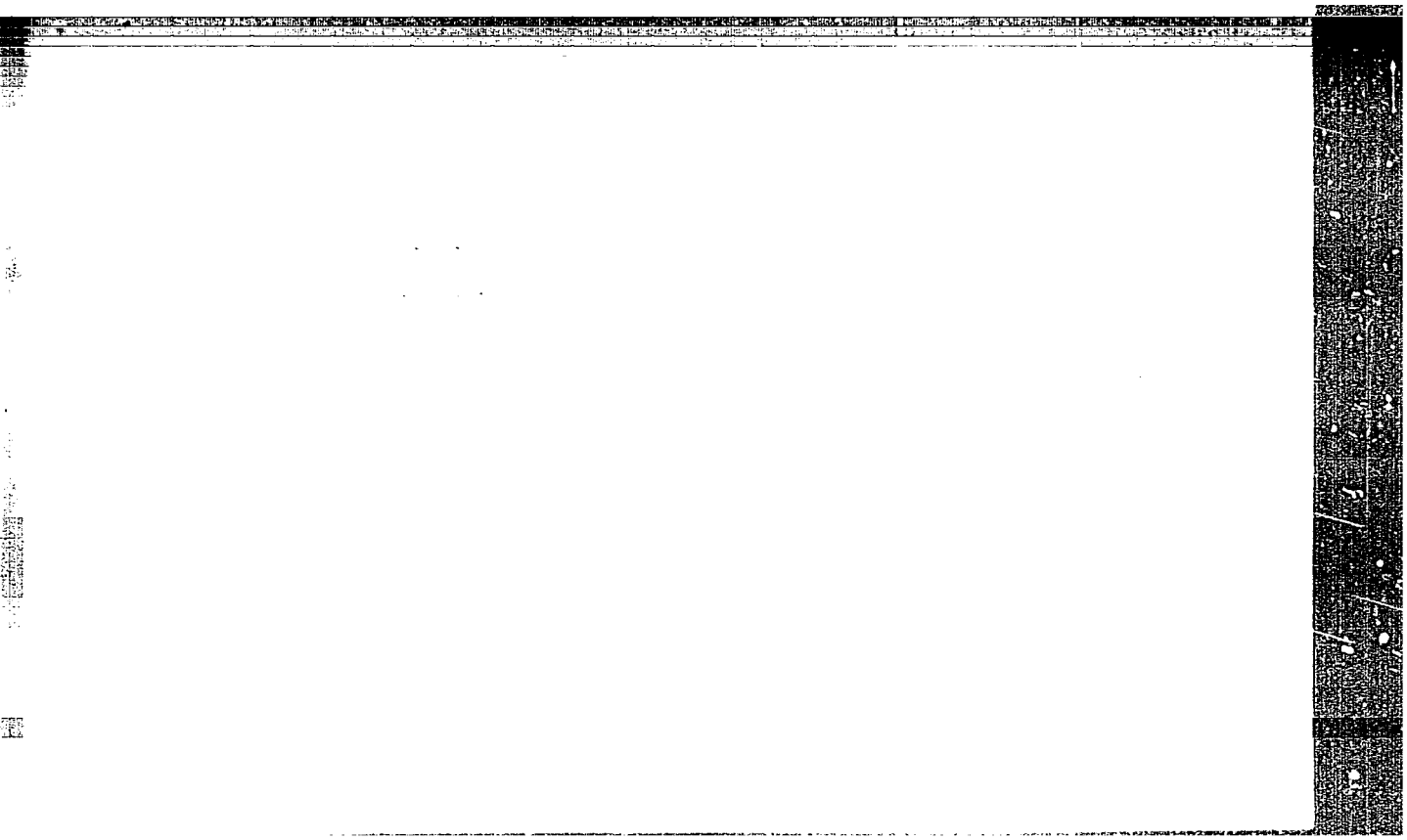
(Shock waves)











VOL'PIN, M.Ye.; STRUCHKOV, Yu.T.; VILKOV, L.V.; MASTRYUKOV, V.S.; DULOVA, V.G.; KURSANOV, D.N.

Structure of the products obtained in the reaction of acetylene with bivalent derivatives of germanium. Izv. AN SSSR. Ser. khim. no.11:2067 N '63. (MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

DULOV, V.G. (Novosibirsk):

"Supersonic flow over blunt-nosed axisymmetric bodies."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

ACCESSION NR: AP4041209 S/0207/64/000/003/0164/0166

AUTHOR: Dulov, V. G. (Novosibirsk)

TITLE: Equations of stationary axisymmetric gas flow in the variables "pressure - flow function"

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1964, 164-166

TOPIC TAGS: axisymmetric gas flow, stationary gas flow, flow function, nonviscous gas, nonconductive gas, equation of state, Monge Ampere equation, momentum flow, supersonic flow, shock wave, ordinary differential equation, blunt body

ABSTRACT: The author transforms the equations of stationary axisymmetric flow of nonviscous and nonheat-conductive gas with an arbitrary equation of state to a form where pressure and the flow function are considered as the independent variables. He introduces the desired function of these variables so that the dynamic equations are exactly satisfied and obtains the Monge-Ampere equation from the equation of continuity for this function, while representing the desired function as the flow of momentum across a line of constant pressure in the direction of the axis of symmetry. The coefficient of resistance of the body of rotation with generatrix is expressed in terms of the value of this function in the form of an arbitrarily chosen flow line, and an example of the computations is given. The approximate distribution of

Card 1/2

ACCESSION NR: AP4041209

the parameters between the shock wave and the surface of a blunt body in hypersonic flow is found. The solution has relatively low accuracy but is in elementary form suitable for quick calculation. The author studies the problem of exterior supersonic flow about a body with arbitrary generatrix. Approximation of the change of the desired function along the isobar by a polynomial in the flow function allows him to reduce this problem to a system of ordinary differential equations. Orig. art. has: 2 figures and 15 formulas.

ASSOCIATION: none

SUBMITTED: 26Dec63 ENCL: 00

SUB CODE: ME NO REF SOV: 001 OTHER: 000

Card 2/2

DILOV, V.I.

PA 23/49T51

USSR/Geography
History
Bibliography

Nov/Dec 47

"Valuable Historical and Geographical Material on Tuva," V. I. Dulov, 1 3/4 pp

"Iz v-s Geograf Obshch" Vol LXXIX, No 6

Describes work of Mal'tsev on history and geography of Tuva Autonomous Oblast.

23/49T51

DULOV, M.I., prof., doktor istoricheskikh nauk; MORACHEVSKAYA, Ye.N., starshiy bibliograf; SEYFULIN, Kh.M., kand.istoricheskikh nauk; SHAKHUNOVA, P.A., kand.geograf.nauk; POMUS, M.I., otv.red.; DUBOVIKOVA, G.F., red.izd-va; KOVAL'SKAYA, I.F., tekhn.red.

[Bibliography of the Tuva Autonomous Province, 1774-1958] Bibliografiia Tuvinskoi avtonomnoi oblasti, 1774-1958 gg. Moskva, 1959. 164 p. (MIRA 12:9)

1. Akademiya nauk SSSR. Sovet po izucheniyu proizvoditel'nykh sil. Sektor seti spetsial'nykh bibliotek. 2. Irkutskiy universitet (for Dulov). 3. Sektor seti spetsial'nykh bibliotek AN SSSR (for Morachevskaya). 4. Tuvinskiy nauchno-issledovatel'skiy institut yazyka, literatury i istorii (for Seyfulin). 5. Sovet po izucheniyu proizvoditel'nykh sil AN SSSR (for Shakhunova).
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DULOV, V.I., prof., doktor istoricheskikh nauk; MORACHEVSKAYA, Ye.N., starshiy bibliograf; SEYFULIN, Kh.M., kand.istoricheskikh nauk; SHAKHUNOVA, P.A., kand.geograf.nauk; POMUS, M.I., otv.red.; DUBOVIKOVA, G.F., red.izd-va; KOVAL'SKAYA, I.F., tekhn.red.

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ANDRIANOV, K.A.; ZHDANOV, A.A.; KURASHEVA, N.A.; DULOVA, V.G.

Synthesis of polyorganosiloxane aluminum oxanes and polyorganosiloxane titanium oxanes. Dokl.AN SSSR 112 no.6:1050-1052 F '57.
(MLRA 10:5)

1.Chlen-korrespondent Akademii nauk SSSR (for Andrianov).
(Siloxanes) (Organometallic compounds)

AUTHORS: Andrianov, K. A., Dulova, V. G. 62-58-5-23/27

TITLE: Synthesis of Some Derivatives of Trimethyl-Siloxytitanium (Sintez nekotorykh proizvodnykh trimetilsiloksititana)

PERIODICAL: Izvestiya Akdemii Nauk SSSR,Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 644-646 (USSR)

ABSTRACT: The authors achieved the synthetization of some new compounds containing the -Si-O-Ti- grouping. The sole compound of this type was described by Inglish and Sommer (Ref 1). As already described by the authors in previous reports, this compound may be obtained by means of interaction of $TiCl_4$ with trimethyl-silane. In the present report, the synthesis of tetra-(trimethyl-siloxy)titanium and the previously unknown chlorine-substituents of trimethyl-siloxytitanium is described. Di-(trimethyl-siloxy)dichlorotitanium was obtained by the action of $TiCl_4$ on tetra(trimethylsiloxy)titanium. The mixed ether of tri(trimethylsiloxy)butoxytitanium was synthetized by means of the reaction of tri(trimethyl-siloxy)chlorotitanium with n-butyl-alcohol. There are 1 table and 4 references, 2 of which are Soviet.

Card 1/2

Synthesis of Some Derivatives of Trimethyl-Siloxytitanium 62-58-5-23/27

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elemental-organic Compounds AS USSR)

SUBMITTED: January 3, 1958

1. Cyclic compounds—Synthesis 2. Cyclic compounds--Chemical reactions

Card 2/2

66171
~~5(2,3)~~ 5.3600 SOV/20-128-5-24/67

AUTHORS: Vol'pin, M. Ye., Dulova, V. G., Kursanov, D. N., Corresponding Member, AS USSR

TITLE: Formation of Tropilium in the Reaction of Monohalocarbenes With Benzene

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 5, pp 951 - 952 (USSR)

ABSTRACT: The reaction of hydrogen peroxide with tropilium salts causes the elimination of one carbon atom and benzene formation as was proved by the authors some time ago (Ref 1). An inverse reaction, however, has so far not been known (extension of the benzene cycle with the formation of a tropilium cation). There exist only indirect data (Ref 2). The authors have proved that small quantities of tropilium bromide are formed in all cases if potassium tert-butylate acts on CH_2Cl_2, CH_2Br_2 or CH_2J_2 in a benzene medium and hydrogen bromide treatment follows. This may be explained by intermediate formation of the monohalocarbenes CHX and their interaction with benzene (see Diagram). The concentration of the initial substances and the

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Formation of Tropilium in the Reaction of Monohalocarbenes With Benzene

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duration of reaction are of no importance for the yield. The tropilium yield increases slightly with temperature. The reaction investigated by the authors is the first case of formation of nonsubstituted monohalocarbenes observed. The rate of alcoholysis of haloid methylenes increases following the S_N2 mechanism according to the order $CH_2Cl_2 < CH_2Br_2 < CH_2J_2$ (Ref 4) whereas the yield of the tropilium salt increases in inverse order (in agreement with reference 5). There are 6 references, 2 of which are Soviet.

ASSOCIATION: *Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR* (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: June 29, 1959

Card 2/2

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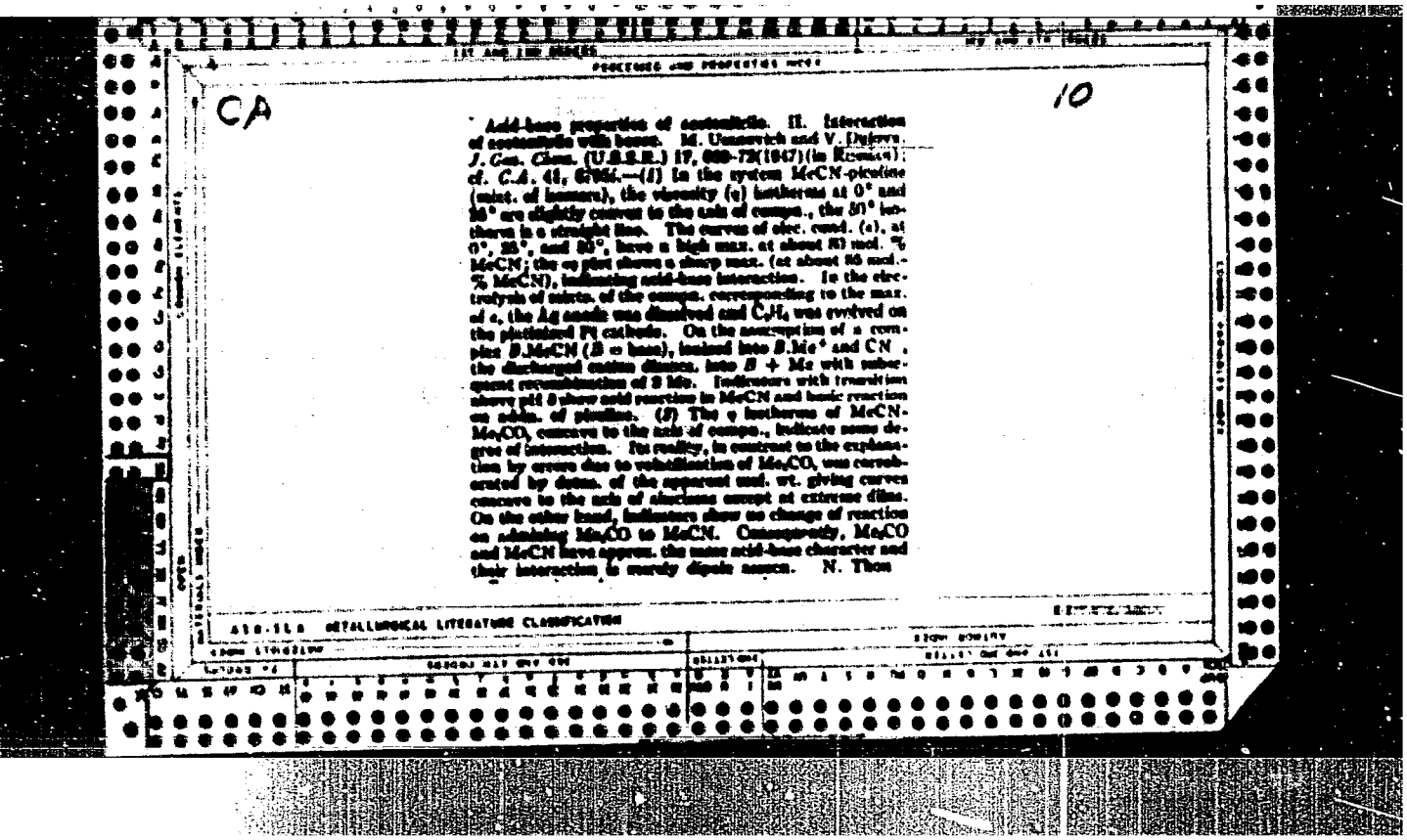
2

Acid-base properties of acetonitrile. I. Interaction between acetonitrile and acids. M. Usanovich and V. Dulova. *J. Gen. Chem.* (U.S.S.R.) 16, 1979-86 (1946) (in Russian); cf. C.A. 40, 4140.—The basic behavior of CH_3CN towards CH_3COOH, CH_3COCl, $C_6H_4(NO_2)OH$, $CH_2ClCOOH$, CCl_3COOH (the acid character increasing in that order) is demonstrated by detns. of viscosity η and sp. elec. cond. κ of the corresponding binary systems. In CH_3CN-CH_3COOH, the 0° and 25° η isotherms are concave to the axis of compn., the latter somewhat less than the former; in the other 4 remaining systems, the η isotherms are convex. In all 5 systems, the κ isotherms (at 0, 25, 50°; 0, 25°; 25, 50°; 25, 50°; 25, 50°, resp., in the order given above) have a distinct max.; CH_3CN-CH_3COOH shows two max. at about 30 and 60 mol. % CH_3COOH), sepd. by a min. The max. is preserved on the corresponding κη curves. CH_3CN-CH_3COOH again shows two max. sepd. by a min.; CH_3CN-$CH_2ClCOOH$ and CH_3CN-$C_6H_4(NO_2)OH$ show an inflection but the max. expected beyond it cannot be attained owing to limited soly. The special case of CH_3COOH (two max. of κ and κη) is also reflected in the curves of the temp. coeff. of elec. cond. which show inflections. On the basis of the κη curves, the acid character towards CH_3CN increases in the order CH_3COOH, CH_3COCl, [$C_6H_4(NO_2)OH$, $CH_2ClCOOH$], CCl_3COOH; indicators (picric acid, malachite green, methyl violet, tropaeoline OO, dimethyl yellow, α-dinitrophenyl, Congo red, methyl orange, benzene-α-azonaphthylamine, chrysoidine, methyl red, p-nitrophenol, neutral red) gave the order CH_3COOH, [CH_3COCl, $C_6H_4(NO_2)OH$], $CH_2ClCOOH$, CCl_3COOH. The basic properties of CH_3CN may be linked with the structure $CH_3\ddot{C}:\ddot{N}$, i.e. be detd. by the presence of the neg. unsatd. N.

N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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Acid-base properties of acetonitrile. II. Interaction of acetonitrile with bases. M. Usanovich and V. Dubrova. *J. Gen. Chem.* (U.S.S.R.) 17, 689-72(1947)(in Russian); cf. *C.A.* 41, 6986.—(*I*) In the system MeCN-pyridine (mixt. of isomers), the viscosity (η) isotherms at 0° and 25° are slightly convex to the axis of compn., the 50° isotherm is a straight line. The curves of elec. cond. (κ), at 0°, 25°, and 50°, have a high max. at about 80 mol. % MeCN; the η plot shows a sharp max. (at about 85 mol.-% MeCN), indicating acid-base interaction. In the electrolysis of mixts. of the compn. corresponding to the max. of κ, the Ag anode was dissolved and C_2H_4 was evolved on the platinized Pt cathode. On the assumption of a complex *B*.MeCN (*B* = base), ionized into *B*.Me$^+$ and CN$^-$, the discharged cation dimers into *B* + Me with subsequent recombination of 2 Me. Indicators with transition above pH 8 show acid reaction in MeCN and basic reaction on addn. of pyridine. (*II*) The η isotherms of MeCN-Me_2CO, convex to the axis of compn., indicate some degree of interaction. Its reality, in contrast to the explanation by errors due to volatilization of Me_2CO, was corroborated by dens. of the apparent mol. wt. giving curves concave to the axis of abscissas except at extreme dilns. On the other hand, indicators show no change of reaction on admixing Me_2CO to MeCN. Consequently, Me_2CO and MeCN have approx. the same acid-base character and their interaction is merely dipole assocn. N. Thon

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